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Thomas Bonham Smith
1736

THE

THEORY and *PRACTICE*

OF

GARDENING:

Wherein is fully handled

All that relates to Fine GARDENS,

COMMONLY CALLED

PLEASURE-GARDENS,

Conſiſting of

PARTERRES, GROVES, BOWLING-GREENS, *&c.*

CONTAINING

Several PLANS, and general DISPOSITIONS of GARDENS, New Deſigns of Parterres, Groves, Graſs-plots, Mazes, Banqueting-Rooms, Galleries, Portico's, and Summer-houſes of Arbour-work, Terraſſes, Stairs, Fountains, Caſcades, and other Ornaments of uſe in the Decoration and Embeliſhment of Gardens.

WITH

The Manner of making the GROUND, forming DESIGNS ſuitable to the Place, and putting them in Execution, according to the Principles of Geometry.

The Method of Setting and Raiſing in little time, all the PLANTS requiſite in fine GARDENS: Alſo the Way to find WATER, to convey it into Gardens, and to make Baſons and Fountains for the ſame.

Together with REMARKS and GENERAL RULES in all that concerns the ART of GARDENING.

By *Le Sieur* ALEXANDER LE BLOND.

Done from the late Edition printed at Paris,

By *JOHN JAMES* of *Greenwich.*

The Second Edition.

With very large ADDITIONS, and a new TREATISE of FLOWERS and ORANGE-TREES.

LONDON:

Printed for BERNARD LINTOT, at the *Croſs-Keys*, between the *Temple-Gates*, in *Fleet-ſtreet*. 1728.

BRITISH MUSEUM

To the Honourable

ARTHUR ONSLOW Esq;

SPEAKER

OF THE

Honble Houſe of Commons

OF

GREAT BRITAIN,

This *Tranſlation* is moſt humbly Inſcribed, by,

SIR,

Your moſt Humble, and

moſt Obedient Servant,

JOHN JAMES.

ADVERTISEMENT *on this* NEW EDITION.

AS I had no other Deſign in this Work than the publick Good, I have been careful to inform myſelf of Peoples Sentiments of the former Editions. Some thought there were too few Plates of Parterres, and that the Chapter which treats of them was not ample enough; this Defect is ſupplied by a new Plate which contains three different ſorts, with their Deſcription, and ſome additional Diſcourſe on that Subject. Others alledg'd that there wanted Aſcents and Steps of Graſs-work, the Deſigns being all for Stone; to obviate which, I have inſerted a Plate with ſix Patterns for this Work: Some have alſo objected to the Regularity of the Places where the Gardens were deſign'd; theſe I have endeavour'd to ſatisfy by a Plate of Gardens, in Sites as irregular as can well be imagin'd. The Plates of Parterres have alſo ſome ſlanting Grounds, and ſome of the Deſigns in the Ten Plates of Woodwork that were too regular, are alter'd, to ſhew in what manner ſuch bevel Lines may be beſt adjuſted. There is alſo added a Plate of fine Bowling-greens, one of extraordinary Hedges, and another of green Portico's.

Theſe new Plates are ſix in number, and are not the leaſt in the Book: They contain the neweſt Deſigns of their kind, and indeed thoſe that are of the moſt Uſe and beſt Taſte in Pleaſure-Gardens. There are likewiſe ſeveral agreeable Additions made to the former Plates, as will be readily perceived upon comparing them one with the other.

As to the Body of the Work, it is augmented more than a Third, by abundance of Remarks, which later Experience, and more ſtrict Enquiry have furniſhed me with; eſpecially in the Third Part, where there are four Chapters entirely new. The two firſt contain the Culture of Oranges, Jeſſamines, and other flowering Shrubs, with the Manner of grafting, raiſing them from Seed or Layers, or chuſing them when grown. In the two other Chapters are all the Particulars that relate to the Management of Flowers for the furniſhing of large Parterres, and the Aſcents of Amphitheatres in every Seaſon, which was much wanted, by reaſon Orange-trees and Flowers make the chief Beauty of fine Gardens.

For the Fourth Part, which treats of Water-works, it was deſign'd, as was mention'd in the former Edition, to new-mould it entirely, and to add nine or ten very uſeful Chapters upon the Origin of Springs, the Levelling and Gauging of Water, Engines for raiſing Water, and the like; but as this would have ſwell'd the Book to an unuſual Size, and have made it both too big, and too dear, it was thought proper to reſerve it for a ſecond Volume, where the whole Buſineſs of Water-works and Fountains ſhall be thoroughly and curiouſly handled, with a ſufficient number of Plates; a Work that has never hitherto been well treated of.

To avoid Confuſion in the Subject, and diſpoſe every thing in its place, this Work is divided into four Parts, and for Convenience is added an exact Table of the Contents.

And farther to improve the Taſte for fine Gardens as much as poſſible, perſuaded as I am, that the greateſt Perſons, after the Example of the *Romans*, may divert themſelves herein without Diſcredit; I have not only ſhewn the Manner of inventing Deſigns for Gardens, and diſpoſing and ordering them according to the Situation of the Ground, but alſo that of reſtoring and new-ſetting Plants in every Part of them, which will render a Man perfect Maſter in this Art.

Theſe were the chief Objections, and ſuch as ſeemed to me moſt reaſonable to be taken notice of, without regarding the whimſical Notions of ſome Builders and Gardeners, who like nothing but what they do themſelves. I hope the Care I have taken in this Reply, together with the other Additions, will be acceptable to the Publick; and ſhall think my Pains well beſtowed, if this Work finds the like favourable Reception, that the former Treatiſe did.

A

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ERRATA.

Page 39. l. 4. for *Borders of Parterres* read *Embroidery of Parterres.*
Page 219, in the Margin, read *great Laurel in* England.
Page 230, l. *ult.* read *Thalaſpic, or Candy-tuft.*
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PART I.

Which contains the

THEORY

OF

GARDENING.

CHAP. I.

Serving as an ADVERTISEMENT.

UPON examining moſt Authors who have writ of Agriculture and Gardening, I found none of them had enlarged upon the Subject I determined to treat of. This, at firſt, had almoſt diſcouraged me from an Undertaking, in which I could hope for no Aſſiſtance from others, it being eaſy to go wrong where no-body has beaten the Way. As I may, then, without Vanity, ſay, this Work has ſomething New in it, I hope, the Reader will more readily excuſe the Faults that ſhall be found therein: Some more able Hand may poſſibly come after, and give the finiſhing Stroke to that which I propoſe but a Sketch of.

MY Deſign being to write of Gardens, which may properly be called Pleaſure-Gardens; that is to ſay, thoſe that we take care to keep with the greateſt Delicacy and Neatneſs, and where we expect to find Regularity, good Order, and whatever may moſt pleaſe the Eye, as Parterres, Groves, and Graſs-Plots, ſet off with Portico's, and Cabinets of Arbor-work, Figures, Fountains, Caſcades, *&c.* For my Information in this Point, I have neglected nothing, having read a great many *Latin*, *Italian*, *French*, and *Spaniſh* Authors on the Subject of Gardening; the Reading of whom, tho' good in itſelf, has, however, been of no great Service to me in this Caſe. Among the *French*, we have but * two or three Authors that have ſpoke of fine Gardens, and they have done no more than lightly touch'd upon them; beſides, that the Deſigns they give at the end of their Books are of very mean Guſto, and ſuch as are now quite out of Uſe. Other Writers of Agriculture have thought this Matter unworthy of their Pen: Some ſpeaking of the pruning of Fruit-Trees; of the Culture of Kitchen-Gardens; of Botanicks, and the Nature of Simples; of Flower-Gardens, Orange-Trees, *&c.* Others of Tillage, and Manuring of Ground; of the Duty of a good Houſholder, Farmer, and Husbandman; of the Vineyard and Vintage; of Fiſhing and Hunting; of Cookery, and making all ſorts of Sweetmeats; in all which may be ſeen the Difference between this Work and theirs.

* Boiceau, Molet.

La Quintinye.
Le Jardinier François.
L. Liger.
Le Jardinier Solitaire
Le Jardinier Botaniſte.
J. de Tournefort.
Le Jardinier Fleuriſte.
Liebaut.
De Serres.

THE great Love I always had for Agriculture and Gardening; the Abode I made at *Paris* and *Verſailles*, whoſe neighbouring Parts contain ſo many Wonders of this Nature; the Satisfaction I found in ſurveying all thoſe Beauties; and the Pains I have taken in planting ſeveral fine Gardens, induced me to make proper Remarks from time to time. Nature, that I have ſo often conſulted; Proofs of Soil; long Experience; and the Converſation of the moſt Able in the Profeſſion, may be allowed to have given me ſome Light in this Affair; and the conſiderable Miſtakes and unneceſſary Expence I have obſerv'd in many Gardens, join'd with the Ignorance of moſt Gardeners, made me, at length, reſolve to communicate my Obſervations to the Publick.

I CANNOT but admire, that among ſo many as have written of Fruit and Kitchen-Gardens, there ſhould be none hither-

to,

to, that have ſpoken fully of Pleaſure-Gardens, which, without Controverſy, are the moſt beautiful and moſt noble of all others; notwithſtanding what a late *Author has ſaid, who ſtrives to give the former the Preference. In truth, nothing can be more pleaſant and agreeable than a handſome Garden, rightly diſpoſed, and well kept; no Proſpect yields more Delight to the Eye, or gives greater Satisfaction to Perſons of a good Taſte.

* La Quintinye.

'TIS not my Deſign, to condemn Fruit and Kitchen-Gardens; they are valuable in their Place, and, I agree, are as neceſſary to make up a complete Garden, as the fineſt Groves and Parterres: We have Inſtances of this, in the moſt magnificent Gardens that are, where the former are as curious in their Kind, as the latter. Nevertheleſs, all theſe Kitchen and Fruit-Gardens, how fine ſoever, are conſtantly ſet in By-places, diſtinct from the other Gardens; an evident Proof that they are rather accounted neceſſary for the Service of the Houſe, than deſigned to improve the Beauty and Magnificence. Theſe are Things ſhould be ſought after, if one would ſee them, and ought never to preſent themſelves firſt to ſight in a handſome Garden.

Verſailles, S. Cloud, Meudon, Sceaux, Chantilly, *&c.*

I AM very ſenſible, every one will not join with me in this Opinion; eſpecially thoſe who have written of Fruit, and ſuch as are great Lovers of it: Theſe make the Perfection of the Art of Gardening, and the whole Beauty of a Garden, to conſiſt of a Kitchen-Ground, a Fruit-Garden planted in **Quincunce*, and in long Eſpaliers, for the Satisfaction of gathering from them a Pear or Peach. 'Tis to this they confine and limit their utmoſt Deſires in the Buſineſs of Gardening; and as for Parterres, Groves, and the like, they have no manner of Eſteem for them.

* Quincunce *in its original Signification, was a Plantation of Trees, like the Cinque Points of a Die repeated; but is now uſed to denote a Plantation where the Trees that made the middle Points are left out, and the others form a perfect Square, and are ſo repeated throughout.*

THESE Men conceit too, that becauſe they can prune a Fruit-Tree, and make a Kitchen-Bed, they are perfectly skill'd in what relates to Pleaſure-Gardens, whoſe Diſpoſition and Culture are very different from the other.

I DO not ſuppoſe this Work can be of any great Service to ſuch Perſons; they are wholly ignorant of the Beauties it treats of; and Intereſt with them is above all other Conſiderations: They would rather have a Garden, like a plain Field, ſtock'd with Apple-Trees, Cherry-Trees, *&c.* or, like a

Marſh, fill'd with Kitchen-Garden Stuff, than enjoy that which is truly beautiful and magnificent. This Spirit of Intereſt, however, is not general, nor to be charged upon Perſons of greater and more elevated Minds; for whoſe ſake, partly, I profeſs to have written, to further their noble Intentions, and to make way for their good Taſte to ſhew itſelf in Publick. I flatter myſelf, this Treatiſe may be of uſe to ſuch, and may conduct them aright in the planting of a handſome Garden. This, at leaſt, I am ſure of, That ſuch a Garden, as I propoſe in the following Chapters, ſhall do a private Man more Credit, than the fineſt Fruit and Kitchen-Gardens in the World; which, in truth, ſeem to argue, that their Maſter has more regard to his Profit, than to any other Conſideration.

SUPPOSING, then, that a private Perſon, wealthy, and curious in the Art of Gardening, would be at the neceſſary Expence of planting a handſome Garden, I lead him, ſtep by ſtep, from the Choice he ought to make of a good Soil, to the Execution and higheſt Perfection of his Garden, inſtructing him in whatever he ought to know, that he be not impos'd upon by the Countrymen and Artificers he ſhall have occaſion to employ.

I SHEW him the way to know good Plants, and to ſet and raiſe them in little time: I inſtruct him to make Baſons, and Fountains with Water-ſpouts, to convey Water into his Gardens; to diſpoſe the Terraſſes, Stairs, *&c.* and, above all, to form a right Taſte of what concerns the general Diſpoſitions of Gardens, and the Deſigns of Parterres, Graſs-Plots, Groves, Arbor-work, Caſcades, and other ſuitable Ornaments; which may be learnt from the 32 Plates inſerted in this Volume.

I PURPOSE likewiſe to give this Gentleman ſo full Inſtructions in the Buſineſs of Gardening, that he may be able of himſelf to make his Ground, and to lay out and trace his Garden with his Domeſticks, without being obliged to have recourſe to thoſe of the Trade. But to this end, he muſt be a Lover of the Country, and of Agriculture; a Knowledge ſo agreeable, and always ſo much eſteem'd by Perſons of the greateſt Quality, that many Princes have not diſdain'd, after the Fatigues of War, to apply themſelves to it; and the Ancients, eſpecially, held it in very great Reputation.

Lewis XIII. Lewis XIV. The late Duke of Orleans. *Imperatorum olim manibus colebantur agri, &c.* Plin. Hiſt. L. 18. c. 3.

BUT,

BUT, ſuppoſing Buſineſs, or ſome publick Employment, ſhould not permit our Gentleman to apply himſelf to plant and raiſe his own Garden, the Peruſal of this Work cannot, however, but be of great Uſe to him; he may be aſſured, that in following the Precepts it contains, he will not be liable to be impoſed upon, when he is to deal with his Workmen about any thing he deſigns to execute. The Gardener will be better kept to his Duty, who knows his Maſter is no Stranger to his Art; whereas, when theſe Men find, that inſtead of underſtanding Gardening, he is unacquainted even with the chief Terms of it, * they make no Scruple to impoſe upon him, but will pretend to take him up, and ſometimes laugh at his Demands. Add to this, that a Garden is always better for being under the Eye of a Maſter that has ſome Skill in it himſelf.

* *Infelix ager cujus dominus villicum audit, non docet.* Columella, lib. 2.

Now, though what I here propoſe for the Inſtruction of a private Gentleman, be part of my Deſign; yet I reckon this Work will be no leſs ſerviceable to Gardeners and Countrymen; who, for the moſt part, are got into a bad Way, and have but a very ill Taſte in Deſigns of Gardening: Both one and the other will here find the true Method of inventing and laying down readily all the Deſigns of Gardens, according to the different Situations of the Ground. This Treatiſe will likewiſe ſerve for a complete Inſtruction to young Gardeners, to confirm thoſe that are not altogether Novices, in what good Things they know, and to illuſtrate and give Light to many other Matters.

'TIS on this Account I have been induced to write for every one, and to make uſe of a plain and homely Stile, ſuitable to the Subject and the Capacity of Gardeners, according to that Precept of *Horace*,

Ornari res ipſa negat, contenta doceri.

I HAVE but one Word more to ſay, and that concerns the Diviſion of this Treatiſe, whoſe Titles are to be found in the foregoing Table of Chapters.

THIS Work is divided into four Parts, which contain, in all, twenty two Chapters.

IN the firſt Part is taught all the *Theory of Gardening*, it being neceſſary, as every one knows, to learn the Theory before

fore the Practice, which is no more than the Sequel and Execution of the Conſequences and Certainties drawn from the former. This Theory is fill'd with general Rules concerning the Meaſures and Proportions of the Parts of a Garden, and ſupported by Examples and well-contriv'd Deſigns, which take in all that is delicate, and of good Taſte in the Art of Gardening. Theſe Deſigns, for the better underſtanding of them, are explain'd by ſhort particular Deſcriptions; and this is what is to be found in the eight firſt Chapters.

THE ſecond Part teaches the *Practice of Gardening*, which is of moſt Conſequence to be known, and that too which has not hitherto been communicated to the Publick; as the Manner of making, or laying out a Piece of Ground, whether level, gently riſing, or in Terraſſes; and of tracing out, and putting in Execution, the moſt difficult Deſigns, all demonſtrated by Figures, and the Principles of Geometry, and made out by a great Number of Experiments and Practices in Matters of Fact.

THE third Part contains the Manner of planting and raiſing, in little time, the Plants and Flowers proper for Pleaſure-Gardens.

THE fourth and laſt Part ſhews the Method of ſearching out Water, conveying it into Gardens, and of making Baſons, Fountains, and Caſcades.

IT may be truly averr'd, that nothing but ſuch a Treatiſe as this was wanting, to perfect what relates to Agriculture and Gardening: Fruits, Legumes, Flowers, and the Tillage, and Manuring of Land, have been diſcourſed of ſo often, and ſo well, that nothing more needs to be ſaid of them. There was none, ſave the noble Pleaſure-Garden, but had been ſufficiently ſpoken of before: And in joining all theſe Tracts together, a Man cannot fail of Inſtructions that will enable him to form a Garden perfectly complete in all its Parts.

CHAP.

CHAP. II.

Of the Situation of the Ground, and of the Choice one ought to make thereof.

THE firſt Thing, and the moſt eſſential to be obſerved in chuſing a Place to plant a Garden in, is the Situation and Expoſition of the Ground. 'Tis on this the Succeſs of the Undertaking principally depends; if we have the Prudence to make a good Choice, the Trees we plant will become beautiful and tall in little time; but if we fail in this Point, all the Care and Expence we can beſtow will ſignify little or nothing.

'TIS next to impoſſible to produce a fine Garden in a bad Soil; and though there are Ways to meliorate Ground, they are always very expenſive; and it often happens, that a whole Garden is ruin'd, when the Roots of Trees have reached the natural Bottom, whatſoever it has coſt to lay good Earth over the whole Surface.

THIS Situation is of ſo great Conſequence, that all Authors, who have hitherto ſaid any thing of Agriculture, have conſtantly and earneſtly recommended the Neceſſity of making a good Choice thereof. I ſhall not take upon me here to quote thoſe Authors, but rather content myſelf to mention what **Vitruvius* ſays, ſpeaking of the Situation of Country-Houſes: He tells us, "That in the Situation of a Country-"Houſe, reſpect ſhould be had to the Region of the Air, "to the Climate, and to the Conveniency of the Place; that "the Place ſhould be eaſily acceſſible, fertile, plenteous in "itſelf, and adjoining to Rivers and Ports, capable of ſer-"ving it with all the Commodities of the neighbouring Parts: "That above all, it ſhould be healthful, not ſituate in a low "and

**A famous Architect in the Time of* Auguſtus.

Things required in a good Situation.

" and marſhy Ground, becauſe of the Corruption cauſed by " the infectious Breath of venomous Animals which breed " there, and occaſion many noxious Humours and Diſtempers: " That, on the other hand, the Situation be not too high " and mountainous, leſt it be ſubject to Fogs and Storms of " Wind, which deſtroy and tear up all before them: And " laſtly, that the Houſe be not turn'd to the South, or Weſt, " becauſe Heat weakens Bodies, and Cold ſtrengthens them. " In another place, he ſays, That to ſeat a Country-Houſe " well, it ſhould be conſider'd, in the firſt place, what Ex- " poſition is moſt wholeſome, and let the Houſe be turn'd " that way."

Vitandum eſt autem quod plerique fecerunt aquæ cauſa, villas in infimis vallibus mergere, & paucorum dierum voluptatem præferre habitatorum ſaluti. Palladius de re ruſtica, lib. 1. tit. 16.

INDEED, this Point requires our utmoſt Circumſpection; for, how vexatious would it be, to build a Country-Houſe, and plant a Garden, in a Place one cannot inhabit above four Months in the Year, without endangering one's Health, as very many are? Let us endeavour, then, as much as poſſible, to avoid this Defect, and conſider what Conditions are neceſſary to a good Situation.

OF theſe I find Five conſiderable; the Firſt, a wholeſome Expoſition; the Second, a good Earth; the Third, Water; the Fourth, a Proſpect of a fine Country; and the Fifth, the natural Conveniency of the Place.

Palus omnimodo vitanda eſt, quia ſiccari conſuevit æſtate, & propter peſtilentiam vel animalia hortis inimica quæ generat. Columella. lib 2.

THE Firſt, a wholeſome Expoſition, or Situation, is, when the Place is neither too high nor too low; not too high, which would very much expoſe the Gardens to the Winds, which are very injurious to Trees; nor too low, becauſe the Dampneſs of low and marſhy Places cauſes abundance of Humours, Defluxions, and other Maladies; beſide the ill Air one breathes, proceeding from Toads, Snakes, Adders, and other venomous Creatures, which breed in Ponds and marſhy Waters.

THIS ſhould induce us to avoid Situations that are either mountainous, or in Bottoms and Valleys. There are two other ſorts infinitely better than either of them, that, indeed, deſerve the Name of happy Situations, and theſe are upon the Hill-ſide, or on the Flat.

The French *call it commonly the* Micote.

THE Situation on a riſing Ground is moſt courted, and has the greateſt Advantages, provided it be not too ſteep, but the Slope eaſy and imperceptible, where one may enjoy

joy a great deal of Level, and a good quantity of Water; for if the Deſcent be too quick, as in a Garden planted on the Declivity of a Mountain, one ſhall often have the Diſſatisfaction to ſee the Trees torn up and carried off by the Torrents and Floods of Water, the Earth above tumbled on that below, the Walks all ſpoil'd, and the Walls thrown down; in a word, there is no keeping a Garden neat, and in good Order, whilſt it is ſubject to ſo many Accidents: Whereas, where the Declivity is eaſy, and inſenſible; and, eſpecially, where it abounds in Springs, you'll find the moſt wholeſome and moſt agreeable Situation that can be; being ſhelter'd, by the top of the Hill, from the Fury of the Winds, and the violent Heats of the Sun, you poſſeſs a temperate Air; the Water that comes down from the upper Part of the Hill, makes Fountains, Canals, and, if you pleaſe, Caſcades, for the Ornament of your Garden. The ſame Waters having done this Office, find their natural Courſe into the Valleys, and render the Place extremely wholeſome too, when they do not ſtagnate, or lodge on it; which is to be underſtood as well of Rain as Spring-Water.

Felix horti poſitio eſt, cui leniter inclinata planities, minimus curſus aquæ fluentis per ſpatia diſcreta derivat. Palladius de Re ruſtica, lib. 1. tit. 33. Boyceau's *Treatiſe of Gardening.* lib. 1. p. 29. La Quintinye, Tom. 1. pag. 165.

THE Situation on the Plain, or Flat, has likewiſe its Advantages; its level Surface is leſs tireſome to walk on, and not ſo chargeable to keep, as that on the Hill-Side: Terraſs-Walls, Slopes, and Steps, being no way neceſſary here. The Floods and great Rains make no Spoil in this, which is a Point very conſiderable in a Garden. On the Flat, one enjoys a fine natural Level, and an Air even more pure than upon the Hill-Side: Vaſt Campains interſected by Rivers, Ponds, and Brooks, fine Meadows, and Hills covered with Buildings, or Wood, continually preſent themſelves to Sight, and form ſo natural and agreeable a Perſpective, that we can never ſet too high a Value on it; beſides the Pleaſure of Fiſhing it affords us, and the Conveniency of Water-Carriage of whatever we ſtand in need of.

THE Generality of Men are pretty much divided upon this Choice; ſome like the Hill-Side beſt; others prefer the Plain. I therefore leave the Reader to determine this Point himſelf, having recounted to him the ſeveral Advantages of one and the other Situation. I ſhall only add, in this Place,

what the Ancients uſed to do (as divers Authors relate) to know if a Place were healthful: They were wont to judge of the Quality of the Air, of the Water, and of the Fruits of a Country, by the Conſtitution of the Bodies of ſuch Beaſts as were fed there, whoſe Entrails they examined; and when they found them waſted and corrupted, they from thence conjectur'd, that thoſe of Men would become ſo likewiſe, ſhould they inhabit the ſame Places.

'TIS not improper to mention here, that in the Buſineſs of Gardening, we reckon four different Expoſitions of the Sun; that of the Eaſt, Weſt, North, and South.

Four different Expoſitions of the Sun.

THE Eaſtern Expoſition is that where the Sun ſhines from Morning to Noon.

THE Weſtern is that on which the Sun darts its Rays from Noon to Evening.

THE Expoſition to the North, is that where the Sun ſhews itſelf the leaſt; for it appears no more than about two Hours in the Morning, and as many in the Evening, and is the worſt Expoſition of all. 'Tis directly oppoſite to that of the South, where the Sun ſhines hotteſt the whole Length of the Day; which makes it eſteem'd the beſt of the Four, and the moſt proper of all others for Gardens.

I RETURN to the ſecond Condition required, which is a good Earth, or Soil; that is to ſay, Ground in its own Nature rich and fruitful. It will not ſuffice to have found an Expoſition healthful, turned to the South, and poſſeſſed of all thoſe Advantages I have already mentioned, if it be not accompanied with a good Body of Earth, and a Soil fertile in itſelf: For, without this, 'tis to be feared, all that is planted, will, in a while, droop and die away: To prevent which, the greateſt Care imaginable ſhould be taken, according to the following Inſtructions.

TO know if the Body of Earth be good, you muſt diſtinguiſh firſt, whether it be an old decayed Garden to be reſtored, or a new Place you deſign to pitch upon. If it be only an old Garden you intend to replant and new furniſh, the Earth ſhould be dug in thoſe Places where you deſign any new Work, whether Parterre, Grove, Bowling-Green, or the like; and if the Ground there be found not good,

good, or be already worn out and exhauſted, it muſt then be dug two Foot deep throughout, the bad Earth muſt be cleared away, and its Place ſupplied with the beſt that can be got thereabouts, or, at leaſt, the ſame Earth returned, with a good quantity of Dung at the bottom of it: which is indeed a great Expence, but that which cannot be avoided; for I know no other Expedient to mend a bad Soil. A Man is ſometimes obliged to be at this Charge, when he buys a Country-Houſe ready built, or has one that falls to him by Succeſſion. And this is all that can be done to repair the natural Defects of an old Garden. But if it be a new Seat you deſign to make choice of, in an open Country where you may do as you pleaſe, there are many other things to be conſidered. It ſhould be firſt examin'd what covers the Ground adjacent; and if Heath, Thiſtles, and other Weeds that grow of themſelves, be found upon it, you may judge the Soil is bad, and to be totally rejected, without fear of being deceived in your Judgment. You may alſo obſerve, if there are great Trees near, whether they grow crooked, ill-ſhap'd, and grubby, of a faded Green, and full of Moſs; if ſo, you'll do well to leave this Part of the Country with ſpeed, and ſeek another far otherwiſe: But if the Trees are ſtrait, tall, vigorous, and of a lively Green, not loaded with Moſs and Vermin, and the Ground be covered with good Graſs, fit for Paſture, or the like; this is a good Encouragement for thoſe that would make uſe of the Soil, to examine farther into its Qualities.

FOR this purpoſe, ſomewhat near the Place you would incloſe for a Garden, ſhould be dug five or ſix Holes in ſeveral Places; as about the Extremities, and in the Middle, to ſearch the Ground, the better to know its Qualities. Theſe Holes ſhould be dug about ſix Foot broad, and four Foot deep; and when the Earth is cleared out, you may then examine, by the Rod, what Depth there is of good Ground: To do the Buſineſs well, there ſhould be three Foot; but by no means leſs than two.

GROUND, to be good, ſhould neither be ſtony, nor hard to work; neither too dry, nor too moiſt, nor too ſandy and light; nor, eſpecially, too ſtrong, as the Rank and Clay *Qualities required in good Earth.*

Grounds; which, of all others, are the worſt for Gardens.

As to the Colour of good Earth; it ſhould be a gray, inclining to black; the whitiſh Earths are never good. There is alſo another Requiſite in good Ground; that to the Eye, the Surface of it appear neither too dry, nor too moiſt; and that in handling, it feel of a temperate Moiſture.

* La Quintinye. L. Liger. Le Jardinier François.

FRUIT Gardeners * add to theſe, That, to know a good Earth, one ſhould conſult the Taſte and Smell: The Taſte, by ſoaking a handful of Earth in a Glaſs of Water, and ſtraining it afterwards through a Cloth; if, in Drinking, you find it has a ſharp or bitter Taſte, the Fruit and Legumes will have the ſame: For the Smell, 'tis but taking a little of the Earth in one's Hand, and ſcenting it, to underſtand its good or bad Flavour.

THE two laſt Qualities reſpect rather the Fruit and Kitchen-Garden, than the Pleaſure-Garden, where the Taſte and Smell ſignify nothing. But, as Fruit and Kitchen-Gardens are neceſſary to a fine Seat, 'twill not be amiſs to have regard to theſe too, it being very diſagreeable to eat Fruit that has a ſharp, bitter, or inſipid Taſte, or that ſmells like a Cabbage, or a Turnep.

As the Fruit that grows about Marly.

THE third Requiſite, which is Water, is one of the moſt conſiderable of all; for beſides that it is extremely neceſſary for Life, 'tis alſo for ſo many other Purpoſes, that if a Country-Seat be without it, 'tis the greateſt Inconvenience in the World, and brings a certain Mortality on whatever is planted. A Garden neceſſarily requires four Things; the Sun, Water, a good Soil, and the Care of the Gardener. Without theſe, there is no good to be expected; and 'twould be the greateſt Folly to plant a Garden where any one of theſe are wanting. But Water, above all, is indiſpenſably neceſſary in every Garden: 'Tis by Waterings the great Droughts in Summer are allayed, which would infallibly burn up all the Plants, had we not the Help of Water to qualify thoſe exceſſive Heats.

Aqua nutrix omnium virgultorum, & diverſos ſingulis uſus miniſtrat.

ESPECIAL Care, then, ſhould be taken in the Choice of the Ground, that Water may be had without Difficulty: The Neceſſity of it is as viſible, as the Beauty 'twill add, in making

making Jets d'Eaux, Canals, and Caſcades, which are, in truth, the nobleſt Ornaments of a Garden.

THERE is no need of having ſo great a quantity of Water in a Country, *that the Land ſhould be drowned by it: Too much is of no ſervice in Gardens, but renders Places watery and unwholeſome, as I obſerved before.

** As at* Ruel, Gentilly, *&c.*

THE fourth Thing required in a good Situation, is, the View and Proſpect of a fine Country: This, indeed, is not ſo abſolutely neceſſary as the former, but is yet one of the moſt agreeable. What Advantage would it be, to plant a Garden in a Place that is buried, and has no kind of Proſpect? Such a Situation would be very diſagreeable and unwholeſome; the Trees themſelves would look nothing ſo beautiful, when too much ſhaded and obſcured. For my own part, I eſteem nothing more diverting and agreeable in a Garden, than a fine View, and the Proſpect of a noble Country. The Pleaſure of ſeeing, from the end of a Walk, or off a Terraſs, for four or five Leagues round, a vaſt Number of Villages, Woods, Rivers, Hills, and Meadows, with a thouſand other Varieties that make a beautiful Landskip, exceeds all that I can poſſibly ſay of it; a Sight of theſe Things being the only means to form a juſt Idea of their Beauty.

THE fifth and laſt Circumſtance is, the Conveniency of the Place; which ſhould be of ſome Conſideration with a private Perſon, in regard of the Advantages he may draw from it. By the Conveniency of the Place, I mean, that the Houſe be near ſome River, for the more eaſy bringing to it all Neceſſaries, and carrying back Proviſions for the Town, which is a great Expence ſaved, when there is Water-Carriage; beſides this, that it be not far from ſome Village, Houſes that ſtand too much alone in the Country being not ſo eaſily ſupplied with the Neceſſaries of Life, nor timely Help in caſe of Accident. That the Houſe be not far from a Foreſt, that Wood may be had the more eaſily; that the Road that leads to it be good both in Winter and Summer, being either paved or gravelled; and, in a word, that whatever is wanting may be, at all times, readily conveyed to it. The Advantage that a Houſe has in being ſituated near a River, is, that it will at leaſt have good and ſhallow Wells, if it has not Spring-water; and by the Help of Pumps, the Water may be

Vitruvius, L. 7. Ch. 1

be raiſed, and conveyed into Baſons, as ſhall be more largely explain'd in the laſt Chapter of this Work.

THE two laſt Conditions, indeed, are not ſo abſolutely neceſſary, as the three former, which are really indiſpenſable, and to which much the greater Regard ought to be had. But all theſe joined together, would certainly make one of thoſe excellent and delightful Situations, which are ſo much eſteemed by all the World.

THIS, I think, is all that can be ſaid touching the Situation of a Place. Happy are thoſe that meet with all theſe ſeveral Advantages in one Spot! Suppoſing, then, to put an end to this Chapter, that a Perſon has made ſuch a Choice as has been now deſcribed, let us proceed to inſtruct him ſo to diſpoſe his Ground, as to make a beautiful and magnificent Garden.

CHAP.

CHAP. III.

Of the Diſpoſition and general Diſtribution of Gardens.

TO make a complete Diſpoſition and Diſtribution of a general Plan, reſpect muſt be had to the Situation of the Ground: For the greateſt Skill in the right ordering of a Garden, is, throughly to underſtand, and conſider the natural Advantages and Defects of the Place; to make uſe of the one, and to redreſs the other: Situations differing in every Garden.

THE Variety and Diverſity of the Compoſition contributes no leſs to complete a Garden, than the moſt diſcreet and well-contriv'd Diſtribution; ſince, in the Opinion of every one, the Gardens that afford the greateſt Variety, are the moſt valuable and magnificent.

'TIS, therefore, the great Buſineſs of an Architect, or Deſigner of Gardens, when he would contrive a handſome Plan, with his utmoſt Art and good OEconomy to improve the natural Advantages, and to redreſs the Imperfections, Bevellings, and Inequalities of the Ground. With theſe Precautions he ſhould guide and reſtrain the Impetuoſity of his Genius, never ſwerving from Reaſon, but conſtantly ſubmitting, and conforming himſelf to that which ſuits beſt with the natural Situation of the Place.

AN Architect has ſometimes great cauſe to complain, that he is oblig'd to ſubject his Genius and good Taſte to the wrong Notions of the Gentlemen he has to do with, who are often ſo fond of their own Opinions, as to ſpoil many good Deſigns. This, without Enquiry into the Cauſe, is by Criticks generally, though unjuſtly, thrown upon the Architect, unleſs he may be ſaid to have deſerv'd it for his blind Complaiſance.

IT is ſometimes difficult to form a general Plan, through the Irregularity of a new Situation, where crooked Ways, and the Bounds of neighbouring Houſes, often occaſion very odd Figures, and conſiderable Slopes or Bevels: It may be too, that the Fall and Irregularity of the Ground, as to the Level, which obliges certain Terraſſes to be made; may fall out very ill, with regard to the general Diviſion of the Incloſure.

ONE is often in great ſtraits when an old Garden is to be ſet to rights without wholly deſtroying it. In ſuch Caſe, an exact Plan ſhould be taken, and every part of it examined one after another, before we condemn it. Above all, we ſhould conform to the Buildings, Walls, Baſons, and Canals already made, unleſs they are exceedingly ill plac'd, and without deſtroying too much, in order to rectify every Fault, redreſs only thoſe that are moſt neceſſary, preſerving as much as is poſſible, eſpecially the Wood, Hedges, and Walks of high Trees, which are long in raiſing, and which in this Renewal ſhould be look'd upon as ſacred, and be very little, if at all, meddled with. This indeed requires a very provident and skilful Hand, not ſuch as are for cutting down and deſtroying every thing to make way for their whimſical Deſigns, of which one ſees too many ſad Inſtances.

ALL this is no ſuch eaſy Task, as ſome imagine; a fine Garden being no leſs difficult to contrive and order well, than a good Building; and that which makes a great many Architects, and ſuch as take upon them to give Deſigns of Gardening, often miſcarry, is, that moſt of them form Deſigns in the Air, no way proper for the Situation of the Place, and at beſt but ſtoln, and pick'd here and there from others.

ONE great Reaſon why theſe People have not the Skill neceſſary to contrive a good Deſign, is, That this Knowledge coming farther off than they imagine, they are deſtitute of the Qualifications requiſite for this purpoſe. A Man ſhould know ſomething of Geometry and Architecture, and be able to draw well; he ſhould underſtand Ornament, and be acquainted with the Properties and Effects of all the Plants made uſe of in fine Gardens; ſhould deſign readily; and, with all this, have a right Judgment, and natural good Taſte, form'd upon the Contemplation of Things that are excellent,

the

the Cenſuring of thoſe that are ill, and a conſummate Experience in the Art of Gardening.

THERE are the very meaneſt Gardeners, who laying aſide the Rake and Spade, take upon them to give Deſigns of Gardens, when they underſtand nothing of the Matter. Unhappy are thoſe that fall into the hands of ſuch Perſons, who put them to a great Expence to plant a ſorry Garden; when it coſts no more to execute a good Deſign, than an ill one! The ſame Trees and Plants are conſtantly made uſe of, and produce an ill Effect only through their bad Diſpoſition.

A MAN that has Wealth, and would plant a handſome Garden, ſhould neceſſarily do three Things. Firſt, he ſhould chuſe a Perſon whoſe Ability in Gardening has been already tried by a number of good Performances: This is the way to avoid falling into ſuch Deſigns as are founded upon nothing but Caprice. In the ſecond place, he ought not to follow the common Cuſtom of executing Deſigns with the moſt extravagant Hurry, with a Fancy to pleaſe himſelf in imitating the Works of Princes. Things done in ſuch haſte, ſeldom ſucceed well: There is no time to digeſt the Deſign, and to let it come to ſome maturity before it be put in execution; and it often happens, that all is to be alter'd the Year following, for not having weigh'd Matters well at firſt. So that theſe People, who take delight in altering and deſtroying things before they are ſcarce finiſh'd, are not only put to a vaſt Expence; but have the mortification of never being able to enjoy any thing they do. Buildings may be ſometimes reckoned among theſe Follies: A general Plan therefore ſhould be expos'd to the Sight of Men of Art, and their Advice taken thereon, without diſregard to any. By hearing one, and another, a true Judgment may be form'd of it, and there will be no danger of doing and undoing. In ſix Months time the Faults of a Deſign may be pretty well learnt; whereas, for ſome days, at firſt, a Man may have his Eyes dazled, and be led wrong by Things of no value. Laſtly, he ſhould conſider the Charge he would be at, and proportion the Size of his Building and the Extent of his Garden accordingly. He is to know, that the larger his Garden is, the more it will coſt to make the Ground, to plant it, to exe-

cute the Deſigns thereon, and to keep the whole in Order. If there be Fountains, Baſons, and Pieces of Water, theſe muſt be all proportionally larger, and conſequently will coſt vaſtly more.

Melior enim eſt culta exiguitas, quam magnitudo neglecta. Palladius de Re ruſtica. L. 1. tit. 34.

IT is better, therefore, to be content with a reaſonable Spot of Ground, well cultivated, than to be ambitious of having Parks of ſuch Extent, that three Quarters of them are ordinarily neglected. The true Size for a handſome Garden, may take in 30 or 40 Acres, not more. As to the Building, which generally ſwallows up half the Expence, there is no neceſſity that it ſhould be ſo large and ſo magnificent, tho' many ſtand upon it to have Palaces, and to be lodg'd better in the Country than in Town. One may juſtly ſay, that a Building in the Country ſhould be proportioned to the Extent of its Garden; for it would be full as diſagreeable, to ſee a magnificent Building in a little Garden, as a ſmall Box in a Garden of vaſt Extent: Theſe are two Extremes which ſhould be equally avoided, by making the Building correſpond with the Garden, and the Garden with the Building. However, it were better of the two to make ſhift with a ſmall Houſe, accompanied with a large Garden; by reaſon a Country-Houſe ought to differ from one in Town, where the Extent of Buildings is more neceſſary than that of Gardens, on account of being the more uſual Place of Dwelling, and of Land bearing a higher Value: The Country we court chiefly, to have our Gardens in it more ſpacious and magnificent.

IN the diſpoſing of a Garden well, there are four fundamental Maxims to be obſerv'd: Firſt, to make Art give place to Nature; Secondly, never to cloud and darken a Garden too much; Thirdly, not to lay it too open; and, Fourthly, to make it always look bigger than it really is; which may be done by obſerving the four following Rules.

The Gardens of Meudon *are very extraordinary; thoſe of* St. Cloud, Chantilly, *and* Sceaux, *are very natural.*

IN planting a Garden we ought to have more regard to Nature than Art, and make uſe of the latter only to ſet off the Beauties of the former. In ſome Gardens we ſee nothing but what is uncommon, forced, and preternatural, every thing done by Dint of Money; ſuch as high Walls to Terraſſes, great Stairs of Stone, like ſo many Quarrys, Fountains cluttered with Ornaments, and abundance of Arbours,

Cabinets, and Portico's of Lattice-work fill'd with Figures, Vaſes, *&c.* which ſhew more manual Art than any thing elſe. This Affectation has nothing of the Air of Nature in it, and falls very ſhort of that noble Simplicity we ſee in Steps, Slopes, and Banks of Turf, natural Arbours, and plain Hedges without Lattice-work, ſet off and heightened here and there with Figures and other Ornaments of Sculpture. As to the Parts of a Garden, they ought to be ſo placed, that one might think them to be ſet there at firſt by the Author of Nature; a Wood, for example, ſhould either cover the Hills, or fill up the Bottoms, and ſhould lie upon the Wings of a Houſe; Canals ſhould be made in low Places, where they may look as natural Sewers from the neighbouring Heights; ſo that all the Art and Embeliſhment we afterwards beſtow on them, ſhould give way to Nature. 'Tis but weak Reaſoning to ſay that what is done by the Labour of Men is more to be eſteem'd, becauſe it coſt much more than what is Nature's Work, where the Charge is inconſiderable; the one indeed is more extraordinary, but ill ſituated, the other leſs ſurprizing, but well placed.

GARDENS ſhould not be made dull and gloomy, by clouding them with Thickets and too much Cover. Fine Openings ſhould be preſerved about the Building, and in other places where the Proſpect of the Country can be ſeen to advantage; for which reaſon we never ſet any thing upon Parterres, Terraſſes, Bowling-Greens, Slopes, *&c.* but ſmall Yews and flowering Shrubs, which taking up little room in the Air, we have the free Proſpect of every thing about us.

WE now often fall indeed into the contrary Extreme, and lay our Gardens too open under the pretence of making the Parts large; there are twenty conſiderable Gardens about *Paris* ſpoiled by this very thing, and where it is needleſs to go into them to ſee them; you diſcover the whole at one View from the Veſtibule of the Houſe, without troubling yourſelf to walk in them. This is certainly very wrong: The pleaſure of a Garden is to have the View ſtopt in certain places, that you may be led on with Delight to ſee the more agreeable Parts of it, as fine Groves or Woodwork, Green-Halls adorned with Fountains and Figures, *&c.* Thoſe great flat Parts, and the Walks about them, rob us, as I may ſay, of the

room where the Wood and raiſed Works ſhould grow, which make the Contrariety and Change in a Garden, and which alone make all the reſt valuable; when the ſhade of theſe, which is ſo neceſſary, is wanting, there is no walking in Summer without being roaſted, which is one of the greateſt Inconveniencies and Faults that can be.

GARDENS that lie thus open, have commonly indeed a fine and extenſive Proſpect; the Walls being under Terraſſes, and nothing intervening to ſhut out the ſight any way: but this is what really makes them look half as little again as they truly are; for comparing them with the neighbouring Country, with which they are blended, in the view they appear, as it were, no bigger than one's Hand, contrary to that fundamental Maxim of making a Garden always look bigger than it really is, either by artfully ſtopping the Eye with Hedges, Walks of Trees, or Woods judiciouſly placed and kept to a proper height, or making Blinds of Wood againſt the Walls, to amuſe the Eye with a conſiderable Extent, where the Bounds of the Incloſure would otherwiſe appear.

THE general Proportion of a Garden is to be one third longer than it is wide, or the Length may be once and a half of the Breadth; that the parts, by being longer than they are wide, may be more pleaſing to the Eye: but to make it twice or thrice its breadth, makes the place look diſagreeable, and no more than a Gut.

THE other general Rules that ought to be obſerved in the Diſpoſition and Diſtribution of Gardens, are theſe that follow.

THERE ſhould always be a Deſcent from the Building to the Garden, of three Steps at leaſt; this renders the Fabrick more dry and wholeſome; and from the Head of theſe Steps you have a general View of the Garden, or of great Part of it, which yields a moſt agreeable Proſpect.

A PARTERRE is the firſt Thing that ſhould preſent itſelf to Sight, and poſſeſs the Ground next the Fabrick, whether in Front, or on the Sides; as well on account of the Opening it affords the Building, as for the Beauty and Richneſs wherewith it conſtantly entertains the Eye, when ſeen from every Window of the Houſe. The Sides of a Parterre ſhould be furniſhed with ſuch Works as may improve and ſet

it

it off; for this being low, and flat, neceſſarily requires ſomething raiſed, as Groves and Hedges. But herein, Regard ſhould be had to the Situation of the Place; and it ſhould be obſerv'd, before you plant, whether the Proſpect that way be agreeable; for then the Sides of the Parterre ſhould be kept intirely open, making uſe of Quarters of Graſs, and other flat Works, to make the beſt of the View, and taking care not to ſhut it up with Groves, unleſs they are planted in Quincunce, or in open Lines, with low Hedges, which hinder not the Eye from looking between the Trees, and diſcovering the Beauties of the Proſpect on every Side.

IF there be no Proſpect, but, on the contrary, you have a Mountain, Hill, Foreſt, or Wood, that by their Vicinity deprive you of that Pleaſure, or ſome Village too near adjoining, the Houſes of which make no agreeable Sight; you may then edge the Parterre with Hedges and Groves, to hide thoſe ill-favour'd Objects; for by this means you loſe nothing, nor have any thing to regret in Time to come.

WOULD it not be a great Grievance, to be obliged, ſome Years after planting, to grub up a Wood, or to cut it down to a certain Height, becauſe 'twas ill placed at firſt, and takes away the Proſpect, which is the moſt valuable Thing about a Country-Seat? *As was done in the Gardens of* Conflans.

GROVES make the chief Beauty of a Garden, and are a great Ornament to all the other Parts; ſo that one can never plant too many of them, provided the Places deſign'd them take not up thoſe of the Kitchen and Fruit-Gardens, which are Things very uſeful and neceſſary for a great Houſe, and which ſhould be conſtantly placed near the Baſs-Courts, that the Slovenlineſs, which is unavoidable in theſe Places, may lie all together, and be ſeparated by a Wall from the other Parts of the Garden.

TO accompany Parterres, we make choice of thoſe Deſigns of Wood-work that are moſt delicate, as Groves opened in Compartiments, Quincunces, Verdant-halls, with Bowling-greens, Arbor-work, and Fountains in the middle. Theſe ſmall Groves are ſo much the more agreeable near a Houſe, in that you preſently find ſhade, without going far to ſeek it; beſides, they communicate a Coolneſs to the Apartments, which is very much courted in hot Weather.

At Liancour, Ruel, *and in the King's Garden, we ſee of theſe Woods very tall and very beautiful.*

IT would be of uſe to plant ſome ſmall Groves of Evergreens, that you might have the Pleaſure of ſeeing a Wood always verdant in the very coldeſt Seaſons. They would look very well when ſeen from the Building; and I earneſtly recommend the Planting of ſome Squares of them in a handſome Garden, to make a Diverſity from the other Wood; which, having loſt its Leaves, appears quite naked all the Winter.

THE Head of a Parterre is uſually adorned with Baſons, or Water-works; and beyond, with a circular Line of Paliſades, or Wood-work, cut into a Gooſe-foot, which leads into the great Walks; and the Space between the Baſon and the Paliſade is fill'd with ſmall Pieces of Embroidery, or Graſs-work, ſet out with Yews, Caſes, and Flower-Pots.

IN Gardens that have Terraſſes, whether Side-ways, or in the Front of the Building, where there is a delightful Proſpect, as you cannot ſhut up the Head of the Parterre by a circular Paliſade, you muſt, to continue the View, lay ſeveral Compartiments of a Parterre together, ſuch as Embroidery, Green-Plots after the *Engliſh* Manner, or Cut-work, which ſhould be divided at convenient Diſtances by Croſs-walks; taking care that the Parterres of Embroidery be always next the Building, as being the richeſt and moſt magnificent.

THE principal Walk ſhould be made in Front of the Building, and another large one to croſs it at right Angles, provided that they be double, and very wide. At the End of theſe Walks, the Walls may be pierced with Grills, or have Openings with Ditches at the Foot of them, to continue the View; and theſe Grills and Openings may be made to ſerve ſeveral Walks, by diſpoſing them into Gooſe-feet, Stars, *&c.*

IF you have any Part of your Ground naturally low and marſhy, that you would not be at the Expence of filling up, you may employ it in Bowling-greens, Water-works, and even in Groves, raiſing the Alleys only to the Level of thoſe that are near, and lead to them.

As the Groves of St. Cloud.

AFTER you have laid out the great Walks and chief Lines, and have diſpoſed the Parterres and Works about the Sides and Head of them, as is moſt ſuitable to the Ground, you may furniſh the upper part, and the reſt of the Garden, with

with ſeveral different Deſigns, as tall Groves, Quincunces, Cloſe-Walks, Galleries, and Halls of Verdure, Green-Arbours, Labyrinths, Bowling-greens, and Amphitheaters, adorned with Fountains, Canals, Figures, *&c.* All theſe Works diſtinguiſh a Garden very much from what is common, and contribute not a little to render it magnificent.

YOU ſhould obſerve, in placing and diſtributing the ſeveral Parts of a Garden, always to oppoſe them one to the other: For Example; A Wood to a Parterre, or a Bowling-green; and not to put all the Parterres on one ſide, and all the Wood on the other; nor to ſet a Bowling-green againſt a Baſon, which would be one Gap againſt another: This muſt be conſtantly avoided, by ſetting the Full againſt the Void, and Flat-works againſt the Raiſed, to make a Contrariety.

AND this Diverſity ſhould be kept not only in the general Deſign of a Garden, but likewiſe in each diſtinct Piece; as, if two Groves are upon the ſide of a Parterre, though their outward Form and Dimenſions are equal, you ſhould not, for that reaſon, repeat the ſame Deſign in both, but make them different within. For it would be very diſagreeable to find the ſame thing on both ſides; and, when a Man has ſeen one, to have nothing to invite his Curioſity to ſee the other; which makes a Garden, ſo repeated, juſtly reckoned no more than half a Deſign. This Fault was formerly very common; but is not ſo of late, every one being now convinced, that the greateſt Beauty of Gardens is Variety. The ſeveral Parts of each Piece ſhould alſo be diverſifyed, as, if a Baſon be Circular, the Walk that ſurrounds it ſhould be Octangular; and ſo of Bowling-greens, and Graſs-Plots, that are in the midſt of Groves.

The Garden of the Tuilleries *is near alike on both Sides.*

THE ſame Works ſhould never be repeated on both Sides, but in open Places, where the Eye, by comparing them together, may judge of their Conformity, as in Parterres, Bowling-greens, Groves opened in Compartiments, and Quincunces. But in Groves formed of Hedges and tall Trees, the Deſigns and Out-parts ſhould be always varied; which, tho' different, ought, however, to have ſuch Relation and Agreement with each other in their Lines and Ranges, as to make

make the Openings, Glades, and Viſta's, regular and agreeable.

IN the Buſineſs of Deſigns, you ſhould ſtudiouſly avoid the Manner that is mean and pitiful, and always aim at that which is great and noble; not making little Cabinets and Mazes, Baſons like Bowl-diſhes, and Alleys ſo narrow, that two Perſons can ſcarce go abreaſt in them: 'Twere infinitely better to have but two or three Things ſomewhat large, than a dozen ſmall ones, which are no more than very Trifles.

BEFORE the Deſign of a Garden be put in Execution, you ſhould conſider what it will be in 20 or 30 Years to come, when the Trees are ſpread, and the Hedges grown up: For, very often a Deſign which looks handſome and of good proportion when it is firſt planted, in proceſs of Time becomes ſo ſmall and ridiculous, that one is obliged to alter it, or to deſtroy it entirely, and plant another in the room of it.

CARE ſhould be taken, in the general Diſtribution of a Garden, to place the Trees ſo at the Ends of all the Walks, that they may not offend the Eye; to which end the Corners and Angles of every part of a Garden ſhould be ſloped, or cut hollow, which would make the Croſs-walks more agreeable to the Eye, and more convenient for walking, than to find Points and Corners advancing, which look ill upon the Ground, and are very inconvenient.

THERE are many other Rules beſides theſe, relating to the Proportion, Conformity, and Place of the different Parts and Ornaments of Gardens; which being treated of in the following Chapters, I ſhall ſay no more of them in this Place.

AFTER all theſe general Rules, the ſeveral Sorts of Gardens in uſe may be diſtinguiſh'd under three Heads. Gardens on a perfect Level, Gardens on an eaſy Aſcent, and Gardens whoſe Ground and Level are ſeparated and interrupted by Falls of Terraſſes, Slopes, Banks, Flights of Steps, *&c.*

GARDENS on a perfect Level are certainly the beſt, as well for the Conveniency of walking, as for that their long Alleys and Glades, having no Riſings nor Fallings, are leſs chargeable to keep than others.

GARDENS on a gentle Aſcent are not altogeter ſo agreeable and convenient; tho' the Shelving be imperceptible, it never-

nevertheleſs, fatigues and tires one extremely, to be always going up Hill, or down Hill, without finding ſcarcely any Reſting-Place. Theſe ſloping Grounds are alſo very liable to be ſpoiled by the Torrents, and require a conſtant Charge to maintain them.

GARDENS in Terraſſes have their peculiar Worth and Beauty, in that from the Height of one Terraſs you diſcover all the lower Part of the Garden; and the Compartiments of the other Terraſſes, which form ſo many ſeveral Gardens one under another, and preſent you with very agreeable Views, and different Scenes of Things, provided the Terraſſes are not too frequent, and there be good Lengths of Level between them. Theſe Gardens lie very advantageouſly alſo for Water, which may be repeated from one to another; but they are a great Charge to keep up, and coſt a great deal the Making.

'TIS to theſe different Situations, that the general Diſpoſition of a Garden, and the Diſtribution of its Parts, ought ever to be accommodated: This is ſo evident, that an excellent Deſign, which would be very proper for a Garden flat, and upon a perfect Level, would be good for nothing in a Ground cut aſunder by divers Terraſſes, which break off both the Level and the Continuity.

THE five following Plates afford Examples of all theſe ſeveral Situations, and give the Idea of what may be performed in them of the beſt Contrivance. The Deſigns may perhaps appear too magnificent, and too coſtly, to be put in Execution; and ſo may all the other Deſigns of this Work: But you need take thoſe only that you like; and there is no doubt, but a compoſed and elaborate Deſign will anſwer your End better than one that is altogether plain and ordinary. You may therefore take out what you think for your Purpoſe; and for what concerns the Magnificence, as Figures, Fountains, Arbors, and other Ornaments, you may retrench them; or, in the place of Baſons and Waterworks, make uſe of Rounds and Green-Plots, which nevertheleſs may do very well.

ALTHOUGH I have determined the Size of theſe general Plans to 60, 30, 20, or 10 Acres, you may nevertheleſs make

uſe of them for greater or leſſer Grounds, by diminiſhing or augmenting the Parts which compoſe them.

The Fathom of theſe Deſigns is ſix French *Foot, equal to ſix Foot four Inches and a half,* Engliſh.

FOR the Help of thoſe that are unacquainted with the Fathom, and would know how much Ground theſe Diſpoſitions, and each particular Part does take up; I ſhall mention, that they need only meaſure with the Compaſſes 30 Fathom upon the Scale, and make a Square of it upon the Plan; and this ſhall contain one Acre, becauſe 30 Fathom every way, makes 900 Square Fathom, * or 3600 Square Yards; which is the Content of an Acre. Upon a Line, the Acre contains a hundred Pearches, or 300 Fathom in length, and one Pearch, or three Fathom in breadth, which amounts to the ſame.

* *The* Engliſh *Acre is* 4840 *Square Yards, but our Foot being but* 11 *Inches and a quarter of the* French *Foot, you may compute ſeven* French *Acres make ſix* Engliſh.

THE firſt Plate preſents you with one of the nobleſt and moſt magnificent Deſigns that can be: It is made for a flat Ground of about 50 or 60 Acres Extent. A great Avenue is ſuppoſed to lead to the Grill, or Gate of the Outer-Court, ſeparated by the Walls of the two Baſs-Courts, upon the Wings, which are environed with very regular Buildings, ſerving on one Side for Stables, * *Menagery*, Dove-houſe, Stalls for Cattle; Granarys, Barns, and other Conveniences required in a Baſs-Court; and on the other Side, for Lodging-Rooms for Servants, and a long Green-houſe fronting the Orangery. This Fore-Court leads you into the Caſtle-Court, which is parted from the other only by a wet Mote. The Building conſiſts of a large double Pavilion in the Middle, with Sides ſtretching each way to two Pavilions at the Ends; in Front of which are two ſmall Terraſſes, from which you diſcover on the Left a Parterre of Compartiment, and beyond it a Graſs-work, encompaſſed with Caſes and Yews, with Water-works in the Middle. Further is a large Kitchen-Garden walled in, which contains two Squares, each having four Quarters, with Baſons. It is terminated by a long Arbor, with three Cabinets facing the Walks and Pavilions. On the Right is another Parterre of Compartiment with a Bowling-green at the End of it, and beyond are Graſs-plots cut to anſwer the Walks, having Bubbles of Water, as on the other Side. Theſe are bounded by a double Line of Caſes, and Yews, and behind, by green Niches for Seats and Figures. On the Side is a Parterre of Orangery walled in, having Iron Grills againſt the Walks;

* Menagery *is a Place where they keep Animals of ſeveral Kinds for Curioſity.*

Walks; and at the End is a Baſon, with Cabinets and green Niches for Seats.

THE Entrance of the great Garden is by the Deſcent of Steps from the Building, where you have a large Croſs-walk, terminated by Grills of Iron; and in front another great double Walk, which runs from one End of the Garden to the other, as do thoſe two alſo by the Walls which incloſe the Ground. Immediately under your Eye, are four Pieces of Parterre, two of Embroidery, and two of Compartiment, with Baſons in the midſt. Theſe are accompanied by two open Groves, adorned with Bowling-greens; and beyond them is another large Croſs-walk of Yews, in the Middle of which is the great Baſon. The Head of this Parterre is compoſed of four ſmall Graſs-Plots, with Edgings of Box and Yews; and above is a Half-Moon of Hedges, whoſe circular Walk anſwers thoſe which divide the four great Quarters of the Parterre before the Houſe. This Half-Moon is parted into a Gooſe-foot, and its Alleys are very fine, leading you to other Baſons and Cabinets all different. Between each Alley, there are Niches cut for Figures, which make a beautiful Ornament on all Sides. Theſe Groves are accompanied with two Quincunces, ſet off with Cabinets, and a Hall in the Middle, with Figures. There is alſo a Croſs-walk made by the Hedges and Trees of the Groves, where there are two Baſons, whoſe Spouts anſwer Lines from the great ones of the Middle Walk. Beyond are four Groves, cut like St. *Andrew*'s Croſs, all different. The two upon the Right of the great Walk, contain a Hall adorned with Seats and Figures, with a Bowling-green, and another Hall with Benches of Earth, which may ſerve for an Amphitheater, or Theater for playing Comedies. In the two on the Left, there is an Oval Hall, with a Bowling-green, different from the other, and a little Hall with Fountains, contrived in the four Middles, without interrupting the Lines. All theſe Works appear very magnificent when executed, being divided by Alleys, that range with thoſe of the upper and lower Parts of the Garden, both in their Square Lines and Diagonals, which makes the Views and Glades of a very great Length.

BEYOND theſe Groves is a large Canal, reaching the whole Breadth of the Garden; in the midſt of which is a

Group of Figures, as *Neptune* with *Tritons* throwing one great Spout, and many leſſer every way. At each End of this Canal, the Walls are opened, with wet Ditches, to preſerve the Proſpect. Further are two large Woods of high Trees cut into Stars, the Alleys of which are double, and planted with Trees that ſtand detached, with a Carpet of Turf running through the whole, whence they take the Name of Green Walks. * In the middle of theſe Woods are two different Iſlands with Figures and Yews. At the End of the great Walk beyond theſe Woods, you meet with a low Terraſs-Wall, from whence you have a View of the Country round about; a wet Ditch runs the whole Length of this Wall; and in the Front of the Half-Moon, at the End of the great Walk, is made a Caſcade, which has three Mask-heads, and a Sheet of Water, that falls again into a piece Water that has two Jets, the Water of which comes from the Canal, and ſupplies all the Ditch without the Garden. A Termination of this kind is certainly the moſt magnificent that can be; and, without enlarging farther upon the fine Lines and Views from one End of the Garden to the other, and the Harmony of the Parts, together with what one diſcovers in the ſeveral Alleys, as Figures, Fountains, Openings, Grills, and the like, it muſt be acknowledged this Deſign is ſufficient to ſatisfy any one in its Diſpoſition, Variety, and Diſtribution of its Ornaments and Water, which come from a Reſervior without the Park.

* *Fr.* Arbres iſolés, i. e. *Trees that ſtand not in a Paliſade or Hedge-Row, but free, ſo as you may go round them.*

THE ſecond Plate gives the Idea of a Garden, in Beauty not much inferior to the other, but nothing near ſo large, containing no more than 25 Acres: It is ſeated in a Ground divided into Terraſſes in Front of the Building, which is here ſuppoſed to be planted in the midſt of a Park, or Country, where the Lines of the Walks are continued quite through the Woods and Fields. You enter into a handſome Fore-Court ſet off with Graſs-Plots, and a Fence of Wood, which on the Left leads to a large Kitchen-Garden, parted into ſix Squares, with a Baſon: and on the Right into a Baſs-Court, ſurrounded with Buildings; from whence you paſs into another Court, where is a Wat'ring Place, and a Dove-Houſe, with other Conveniences; you enter this Court likewiſe from the Country, and it ſerves as a Store-Yard to the Baſs-Court. Beyond is a Parterre of Orange-Trees with a Baſon, terminated by

an Arbor of Lattice-Work in a circular Form, adorn'd with three Cabinets, behind which is contrived a very curious ſmall Grove. At the End of the Fore-Court you find a great Court, bounded by Galleries, Pavilions, and a long Range of Building at the Bottom, which renders the whole very regular.

YOU go down Steps to the Gardens, which preſent you firſt of all with a great Terraſs, laid quite open for the ſake of the Proſpect, and filled with two Pieces of Parterre of Embroider'd-Work, with * Counter-Borders, accompanied with Bowling-Greens, the Bottoms of which are enriched with Graſs in Cutwork. On the Sides are two Heads of Water, which ſerve as Conſervatories for the Fountains at the lower End of the Garden. You deſcend from this Terraſs at each End, and in the Front of the middle Walk, by great Stairs made Horſe-ſhoe Faſhion, ornamented with three ſmall Jets, which are level with the firſt Terraſs, and throw a Sheet of Water into the Baſon below On the ſecond Terraſs you find four Groves, two of which are open in Compartiments, and the other two are planted in Quincunce, or Squares, which do not interrupt the Proſpect. The Deſigns of them are very curious, and they are ſet off with Baſons and Figures. The great Walk in the Middle, and the others, are continued, and planted with Yews, and Trees that ſtand detached. There is a great Baſon with a Stool, and Bubbles of Water facing the Middle-Walk, and a Croſs-Walk, planted with Horſe-Cheſnuts beyond the Groves. The Walk round this Baſon makes the Terraſs advance in a circular Form, where are two Flights of Stairs with Steps, Reſts and Landings againſt the Gooſe-Foot, which is cut in the Wood of Foreſt-Trees below, and forms a Half-Moon of Horn-beam, adorn'd with Figures in Niches. You go down likewiſe by Steps, which lie at each end of this Terraſs.

* *Fr.* Plates-bandes iſolées,

THE two Flights of great Stairs in the Middle incloſe a Baſon with Bubbles, which fall into another, where there are four Jets that throw a Sheet of Water into a Baſon below, which makes the Head of a Caſcade that runs into the great Canal at the Bottom. All this Water runs along little Channels, and falls foaming into Baſons, where there are Water-

Spouts

* Chandeliers, *from the Likeneſs they have to a Candleſtick with a broad Foot.*

Spouts: On the ſide of theſe Channels are ſmall * Salvers of Water, which are continued to the very lower end, as well as the Baſons and Spouts of this Caſcade; all which diſcharge their Water into the Canal, out of the Middle whereof riſes a very large Jet d'eau. There may be ſmall Boats had to go upon this Canal, which ſerves likewiſe for a Fence, and to ſeparate the Garden from the Park. The Foreſt-Wood that accompanies this Caſcade is cut with diagonal Walks, and a large circular one, where you find Croſs-Walks and Green-Plots. The Diagonals lead you by Alleys that return Square into four Cabinets, all different. In the two upon the Right you have a great Circle, environ'd with a Hedge cut into Arches, with an octangular Bowling-Green in the Middle, and a long Hall, with Niches cut for Figures, and two Sinkings for Shells and Buffets of Water: In the middle is a Graſs-work after the *Engliſh* Manner, encompaſſed with a Flower-Border. The two Groves on the Left conſiſt of a green Hall, with a Row of Trees that ſtand detached, and a cloſe Walk in Cants, formed by plaſhing the Trees into a natural Arbor; the Middle of which is filled with a Bowling-Green ſet out with Yews. 'Tis to be obſerved, that the Level of the Walks of theſe Groves ought to be kept to that of the great Walk in the middle, and of thoſe on the ſides, which is ſuppoſed to be a gentle Slope, by reaſon of the Caſcade.

THE general Diſpoſition of the third Plate deſcribes a Garden ſituated on the Declivity of a Hill, whoſe Terraſſes are ſideways, to diſtinguiſh it from the foregoing Deſign, where they are in Front. The Building here is very plain, and has no outer Court, which makes this Deſign leſs expenſive to execute than the others. The Court has two Pavilions, with a large Grill between them, and a Baſs-Court ſurrounded with Buildings, where there is a Dove-Houſe and Watering-Place: Behind the Baſs-Court are four Squares of Kitchen-Garden, with a Baſon in the middle. On the other ſide of the Court is a ſmall Terraſs, which ranges with the left Pavilion at the Entrance, and with the Corner of the Houſe, and leads you along by the Court-ſide into the Garden. In Front of the Houſe, you find upon a long Terraſs ſix Quarters of Parterre, with a large Walk in the middle, and one on each ſide, with Croſs-Walks to divide the Quarters;

ters; two of which are of Embroidery, two of Compartiment, with a great Baſon in the middle; and the two others after the *Engliſh* Manner, ſurrounded with a Border cut, and garniſhed with Flowers, Yews, and * Shrubs. The end of this Terraſs is terminated by an Opening, which the *French* call a *Claire-voie*, or an Ah, Ah, with a dry Ditch at the foot of it. From this Terraſs you go up by Steps at each end, and againſt the Baſon, to a higher Terraſs, where you have a large Wood-work cut into a Star, with a circular Alley, and eight Croſs-ways; in the Middle is a piece of Water, with a Jet d'eau, which ſerves for a Reſervoir, or Conſervatory, for the other Baſons below; on the Side is a green Gallery, ſet round with Standard-trees and Graſs-Plots with Figures. This Gallery is accompanied with a large double Walk, having a Green-Plot in the middle, which leads to the Houſe.

* *Fr.* Arbriſſeaux, *Flowering-Shrubs, as Roſe-Trees, Honey-ſuckles,* Perſian *Lilachs,* &c. *which are kept to four or five Foot high at moſt.*

As to the Gardens below, you go down from the Terraſs before the Houſe by two Deſcents of Steps, which bring you on another Terraſs, that has two Bowling-greens with oval Baſons, an open Grove in Compartiment, and a Quincunce; all of them ſet off with Figures and Green-Plots, and divided by Walks which anſwer thoſe of the upper Terraſſes. This Terraſs is ſupported by a Slope of Graſs, in which are three ſeveral Deſcents to another Terraſs, half of which is taken up by a Canal, or large Square of Water, with a Jet in the middle of it. The reſt is a Wood-work, planted in a very handſome Compartiment: This Terraſs is ſuſtained, as the other, by a great Slope of Graſs, with a Ditch at the foot of it, which lies without the Garden. Theſe four Terraſſes are bordered with Yews, Cheſts, and Flowering-Shrubs; and are ſet off with many other Ornaments, as may be eaſily conceived, without farther Explication.

THE fourth Plate contains two different Diſpoſitions of ſmall Gardens, fit for the Houſes of private Perſons.

THE Diſpoſition of the firſt Figure may be performed in the Compaſs of five or ſix Acres, and yet comprehends all that can be wiſhed for in ſo ſmall a Garden. You enter in Front of the Building into a Court adorned with Graſs-Plots and Walks, accompanied on the left with a Baſs-Court, behind which, is a Nurſery: Upon the right is a Kitchen-

Ground

Ground walled in. The Houſe ſtands detached, and, by the two Grills on the ſides, parts the Garden from the Court. 'Tis a plain Body of a Houſe, with different Fronts; that on the Court-ſide breaks out with a Pavilion in the middle, which has Steps beneath; the Garden-Front has a Pavilion with Steps at each end. On the ſides there are Croſs-walks, terminated by Grills the whole Breadth of the Walks. In Front of the Building is a Parterre, with Walks cut diagonally, or like St. *Andrew*'s Croſs, to which you enter at the ends that anſwer the two Deſcents from the Pavilions. On the Wings of this Parterre there are two Walks facing the Grills of the Court, which are terminated by Figures and Niches made in the Hedge of the Wood. Upon the ſide of theſe Alleys are two Groves; the one a green Hall, with a Bowling-Green; and the other a cloſe Walk, made by a natural Arbor; both of them adorned with Figures that face one another. Beyond theſe Groves you find a large double Croſs-walk, planted with Horſe-Cheſnuts, and Yews between them, continued on to the great Baſon at the end of the Parterre, which is ſeen from all the Walks, and chiefly from the great double Walk before the Houſe, which runs from one end to the other. This Walk is very large, and cuts into a tall Wood; in the midſt of which is a great Circle, where the Lines of a Star made in the Wood meet and concenter: Theſe are interſected by other ſtrait Alleys, with four circular Croſs-ways, and Diagonals, that center upon the two Baſons at the ends. The Baſon that terminates this great Walk is in Cants, and is ſeen from the Croſs-walk at the end. This whole Line is terminated by a large Grill beyond the Baſon; and along the Wall is a thin Gut of Wood, as well to hide it, as to make the Garden appear the bigger. At each Corner are Niches and Figures, which are ſeen from the Walks round the Walls, and from the diagonal Alleys of the Wood.

IN the ſecond Figure is repreſented a Garden ſomewhat more magnificent than the foregoing, and twice as big. The Building here is likewiſe detached, but conſiſts of a large double Pavilion, with four Deſcents of Steps; one of which faces the Court before it, which is flanked by two Wings of Building, incloſing on one ſide a Kitchen-Garden, and

and on the other a Baſs-Court, through which you go up into a higher Court, where is a Reſervoir banked round, to give the greater Height to the Fountains in the Gardens. This Reſervoir is ſupplied by a Horſe-pump, which is ſet in the Baſs-Court. The two Sides of the Houſe look, one upon a Parterre after the *Engliſh* Manner, and the other upon a Bowling-green, each of them having the Ornament of a Baſon. Theſe two Pieces are attended with double Walks, terminated by Ditches, for the Advantage of the Proſpect. In the chief Front of the Building is one large Square of Parterre of embroidered Work, with two Walks garniſhed with Cheſts and Yews, which anſwer the Pavilions of the Wings of the Court. Upon the ſides of the Parterre you have two Groves; one opened in Compartiment, the other planted in Quincunce; both cut into Stars, and adorned with Figures. Beyond theſe Groves is made a great Croſs-Walk, as uſual, terminated by Grills, and diſcloſing the great Baſon at the end of the Parterre.

BEYOND this Baſon, and this Walk, there is ſuppoſed to be a gentle Fall of Ground going down to the two Groves of tall Trees, which makes it neceſſary to ſupport the Earth by a low Wall, with two Deſcents of Steps facing the Counter-Walks of the Parterre. This Wall runs no farther than the Breadth of the middle Opening, and you go down the Woods by eaſy Slopes, which lead to the Level of the other Walks. Between the Stairs there is a ſmall Caſcade, made by three Mask-Heads, the Water of which comes from the Baſon, and makes a Sheet into the Canal, which runs the whole Length of the great Walk. This Canal is made with a circular Head at the farther end, and is accompanied with two double Walks planted with Yews, ranging with thoſe of the Parterre; and by two tall Woods, which incloſe it very agreeably by the Variety and Richneſs of their Deſign.

THIS Diſpoſition, though inferior in Size and Magnificence to thoſe contained in the three firſt Plates, is not, however, the leaſt conſiderable, for its happy Diſtribution, and for the Lines of the Walks you meet with in the middle of the Groves, which terminate upon the Jets of the Bowling-green, and *Engliſh* Parterre, that are upon the Wings of the Building. All theſe Pieces are bordered with great double

Walks, and with Hedges againſt the Walls, which are cut off by Grills anſwering the Lines of the Walks, or by Walls level with the Ground, and trenched; which make a noble Opening, as well at the end of the Canal, as againſt the two ſides of the Building.

THO' I had perſuaded myſelf, that theſe four Plates of general Deſigns would have ſatisfied every body, I have, however, been obliged to add a fifth, to anſwer the Objections made by ſome Perſons, that the Deſigns offered in this Work were all made for regular Situations; and that it would be a freſh Difficulty to adapt theſe, or invent others for Grounds that are irregular, and bounded by ſeveral oblique and ſlanting Lines. This, indeed, requires ſome Skill and Application; however, 'tis hoped the following Plate will be ſatisfactory therein. It is impoſſible to find Places upon the Ground ſo very much askew and irregular as theſe; one never meets with ſo great a number of Bevellings, ſo particular, and of all Forms that can be imagined, as is here done on purpoſe, that nothing might be wanting in this Point. Beſides which, for every one's further Satisfaction, there are ſome Slopings made in the Plates of Parterres and Groves.

THIS Plate contains two ſmall general Plans fit for the uſe of private Perſons: That of the firſt Figure is about four Acres, and includes as large and as regular Pieces as can be, in a Ground ſo bevelling and extraordinary. The Approach is rendred ſloping by a Building and Walls of the Neighbourhood, which are Inconveniencies not to be remedied, and which one muſt ſubmit to as well as one can. Before the Court the Ground is opened with a Half-moon, which is completed by Trees planted on the other ſide, with the end of an Avenue facing the Entrance; and this ſerves inſtead of a Fore-Court.

YOU have, at the firſt, a Court proportionable to the Bnilding, which is a double Pavilion with a Roof *a la Manſarde*. The two Gates of Communication made in the Walls of the Court, lead on one ſide into a ſmall Baſs-Court, where there are contrived Buildings at each end as the Sloping would give leave; and on the other, into a Kitchen-Ground of a reaſonable Size, and well enough placed with regard to the neighbouring Buildings: It is cut into four irregular Quarters,

ters, with a ſmall Baſon in the middle, and incloſed with Walls on all ſides. You enter this alſo by a Grill fronting the Walk of the great Wood, which is made for continuing the Viſta. As you go out of the Houſe, you have a Parterre after the *Engliſh* manner in one piece, the Ends of which are adorned, one with a Shell of Graſs or Flowers, the other with a Baſon incloſed by the Parterre, the Border of which is cut and furniſhed with Yews and Flowers.

FOR the Enlargement of the View, there are two ſmall Quincunces regularly planted on the Wings of the Parterre; one with a little piece of Wood filled in behind it ſhuts out the Sight of the Garden-Wall too near the Houſe; the other takes off nothing from the Regularity of the Hall in the great Wood: for the Thicket on the back of it is cut to anſwer the other ſides. The Croſs-Walk which runs parallel to that before the Houſe, and ranges with the Baſon of the Parterre, together with the Walk from end to end, which runs from the Grill of the Kitchen-Garden, cuts this Wood into four parts; the Center of which is filled with an Octangular Graſs-plot, with a Figure ſeen from all the Walks, and the ſeveral Halls made in the Wood. The Halls are ſufficiently varied; that on the ſide of the great Walk againſt the Houſe is the largeſt; at the head of it is ſet a Figure, which is ſeen from the Grill at the lower end of the Garden, and from the Riſe of Steps which is made againſt the Walk in the Wood. On the other ſide of the great Walk is another different Hall, one Outlet of which terminates upon this Grill; where the Ground is opened with a Gooſe-foot, as regular as the place would permit. The Seats put in theſe Halls are either in the Lines which come from the Grills and from the Baſon of the Parterre, or from the two Figures; ſo that the View is agreeably terminated every way.

IT is not improper to obſerve here the Contrivance in diſpoſing this Garden, and correcting its Biaſs. The Houſe is placed near one Corner, and the great Walk in front of it is thrown out of Square, to give it the whole length of the Ground, which in any other place muſt have been ſhorter; the Baſon is made to ſhut into the Parterre, to get room for this great Walk, which would have been ſhorten'd, had there been a Walk made round an inſular Baſon. The Walls of the

Baſs-Court and Kitchen-Ground run regularly with the Front of the Houſe; and thoſe on the further ſide are redreſſed by a Hedge, with a Thicket behind it. In the wideſt Part of it, is made an Aſcent of three Steps of Graſs, adorned with Caſes and Flower-Pots, and for the greater Ornament, the Line of the Walk in the Wood is contrived to terminate upon this and the Baſon in the Kitchen-Garden. At the Corner of this Hedge is placed a Seat, which in ſome meaſure takes off the ill Effect of the Elbow. As in ſmall Gardens, all the Walks ſhould not be carried through, from one end to the other, becauſe the Extent of them would then be ſeen at once; I have endeavoured, as much as poſſible, to ſtop the Eye in the Halls, to make the Garden appear much larger than it really is. There are but two long Walks which run from end to end, and two other Croſs-walks, all terminated by Grills, with the Walks next the Garden-walls on the left; for on the right ſide, the Thicket is thrown back to the Wall to hide it the better, and to make one think theſe Slips of Wood much larger than they are. The little Arbour, in the Corner beyond the Kitchen-Ground, is alſo placed there to ſalve the too little Length of that Walk. Theſe Thickets certainly enlarge the Idea one has of a Garden, and contribute not a little to deceive the Eye.

THE Diſpoſition of the ſecond Figure is in a Ground yet ſmaller, and more irregular than the former: however, to do it juſtice, it muſt be confeſſed, that the View meets with nothing offenſive in any place; and that one finds ſomething great in the Diſpoſition of each Piece. The Entrance is regular in Front of the Building; on one ſide is a Baſs-Court, from whence you go into a Kitchen-Garden, ingenioufly enough diſpoſed; the Walks of it, which are in a Gooſe-foot, centering upon a Baſon againſt the Wall; the Incloſure of the Kitchin-Ground redreſſes all the ſlanting Line of this Part. On the other ſide of the Court is a ſmall Parterre after the *Engliſh* Faſhion, with a Shell filled with Flowers, the ſight of which is very agreeable from the Windows of the Houſe; in the Line of which, and to ſhut in the Baſs-Court and little Parterre, there are planted on each ſide four natural Arbors in Porticos, which look wonderfully well upon the Ground: They are backed with a Wall upon

upon the ſide of the Baſs-Court; but upon the ſide of the Parterre the Porticos are left open for entrance, and lead to a Hall under a natural Cover, with a Seat which faces the Line of them. Oppoſite to the Entrance of the little Parterre is ſet a large Bench, in a Niche of Verdure, ſunk in that Gut of Wood which reconciles all the Elbow on this ſide.

THE Eſplanade before the Building is very large, by reaſon of the Decoration of the Porticos. It is filled with two large Pieces of Embroidery, repeated with two Borders in the middle that lie detached. The whole being cut into five Walks, the Counter-walks upon the ſides are bounded by a Row of Horſe-Cheſnuts, planted in a Border with Flowering-Shrubs between each Tree, and are terminated by Figures ſet in the Niches, which are ſunk in the Wood. The Grill, Walk, and Baſon of the Kitchen-Ground are in a Line with one of theſe Niches. Beyond all theſe Pieces is an oblong Baſon, circular at the ends, with two Water-Spouts, which anſwer the Counter-walks of the Parterre, and the two Walks beyond the Baſon, in the middle of which is ſown a Graſs-Plot to make Variety. The Croſs-walk, and this Front-walk are ſtruck through by a Ditch into an Ah, Ah, for the greater Advantage of the Proſpect, and the better to preſerve the Level of the Walks; which the Place would not admit of continuing farther. This is a Point which ſhould never be forgot on theſe Occaſions, no more than the carrying on the Walks into the Country where it may be done. The Croſs-walk, beſides that it ranges upon the two Spouts of the Baſon, is alſo terminated at the other end by a Porch of Lattice-work with a Seat in it. The Bevel on the left ſide of the great Walk is adjuſted by a Guſſet of Wood, in which is contrived a Cabinet, the Line of which terminates upon one of the Spouts of the Baſon, and anſwers regularly to the diagonal Walk of the great Wood. There is alſo a ſmall cut going out of the great Walk, which is returned ſquare at the end, with a Seat in it facing the Walk that croſſes the Wood, for prolonging the Walks of this kind as much as is poſſible. The great Wood is cut into a Star, or St. *Andrew*'s Croſs. One of its Diagonals opens upon the Spout of the Baſon in the Parterre, and is terminated at the other end by a

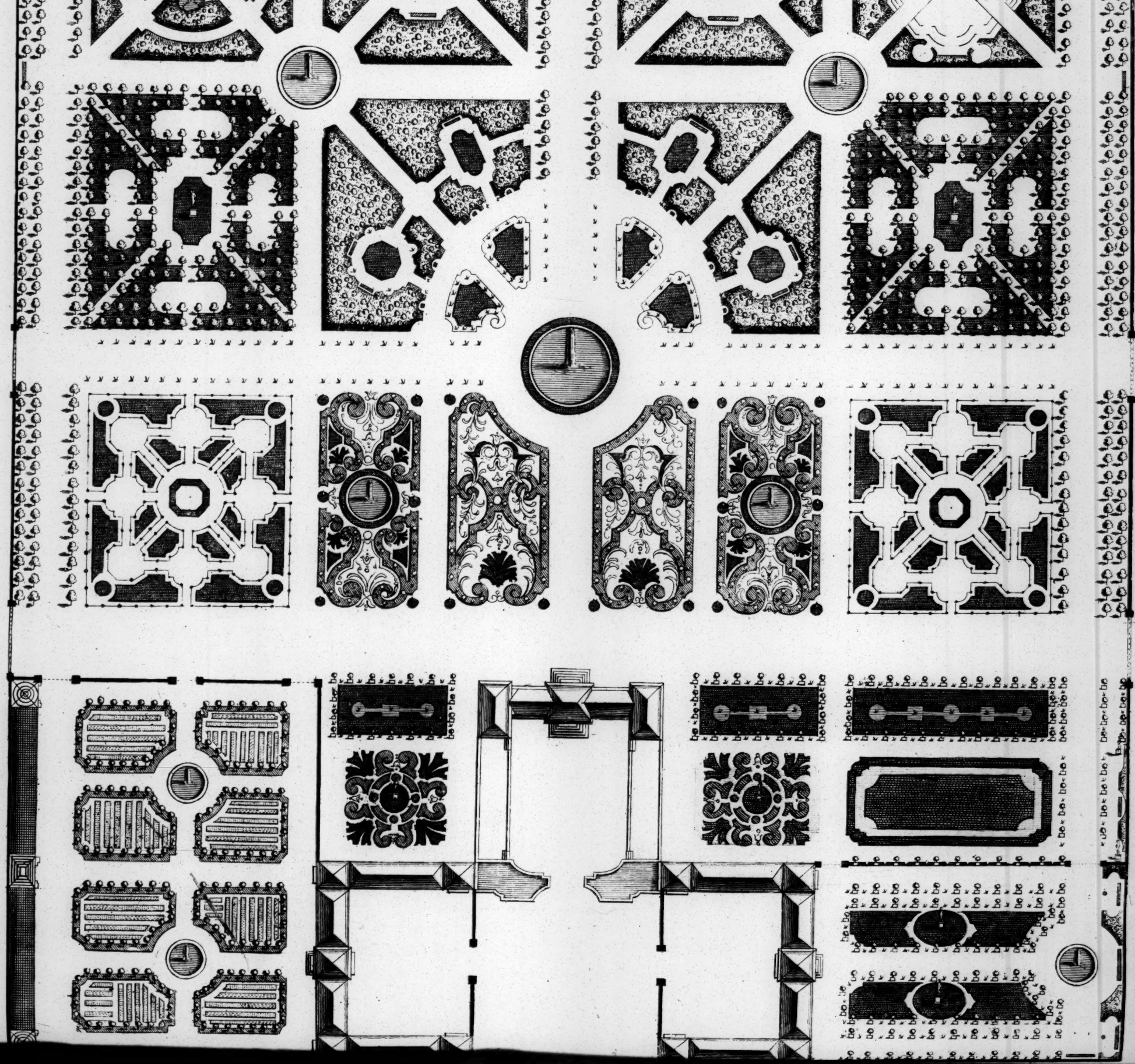
Figure

Figure in the Corner of the Wall; the other commands the two Openings ſtruck through the Wall. All theſe Walks center in a large circular Hall, which has a Bowling-green in it of a very particular Form. In the four Squares of the Wood are four Cabinets all different; two of which are filled with Graſs-Plots, and the others with ſingle Trees and Benches conveniently placed. Beyond this Wood, as there is a Point, which if all filled up, would be very diſagreeable, it is left open by a circular Walk, and two ſmall Graſs-Plots bordered with Elms, cut into Balls and Yews between them, which is very uncommon. This forms a Gooſe-foot at the end facing the Figure, which is alſo ſeen from the outer Walks to which the Openings through the Walls are made correſpondent. The Obliquity on this ſide, which is by a rounding Wall, is redreſſed by a Hedge with a Thicket behind it; the thickeſt Part of which has made room for placing an Arbor of Lattice, with a Seat in it facing the Halls, and the Walk acroſs the Wood.

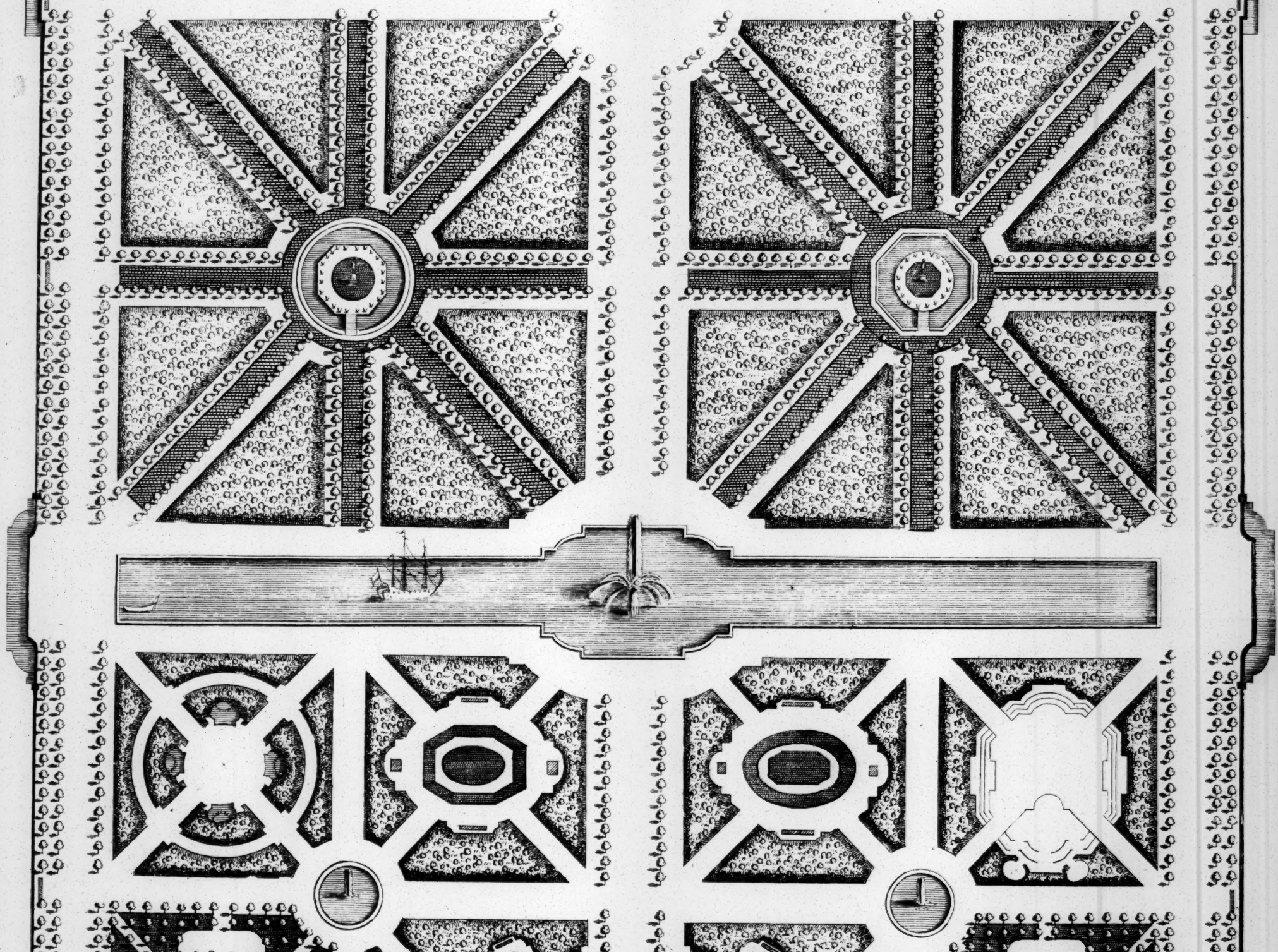
There are in all eight general Plans, ſeven of which follow here ſucceſſively, the eighth is in the IV*th Cha* p. II*d Part.*

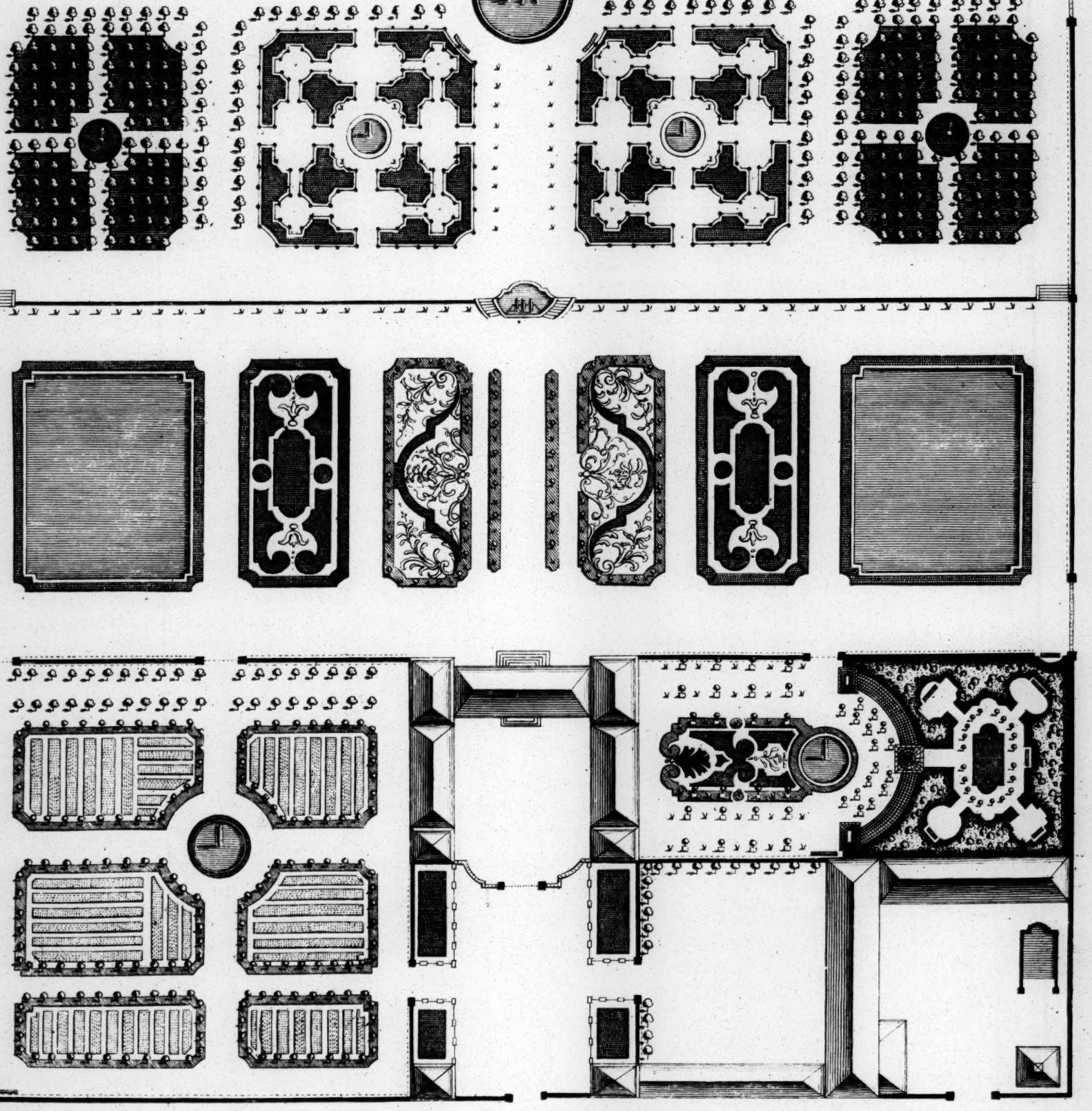
No one can complain that theſe Gardens are too magnificent, there being nothing plainer either in the Diſpoſition and Size of each Piece, or in the Decoration; ſuch as the Figures, Fountains, Portico's, Buildings, *&c.* And this may ſatisfy thoſe Men who thought the foregoing Deſigns too rich and too full of Work for the uſe of private Perſons.

CHAP.



The General Disposition of a Magnificent Garden all upon a level



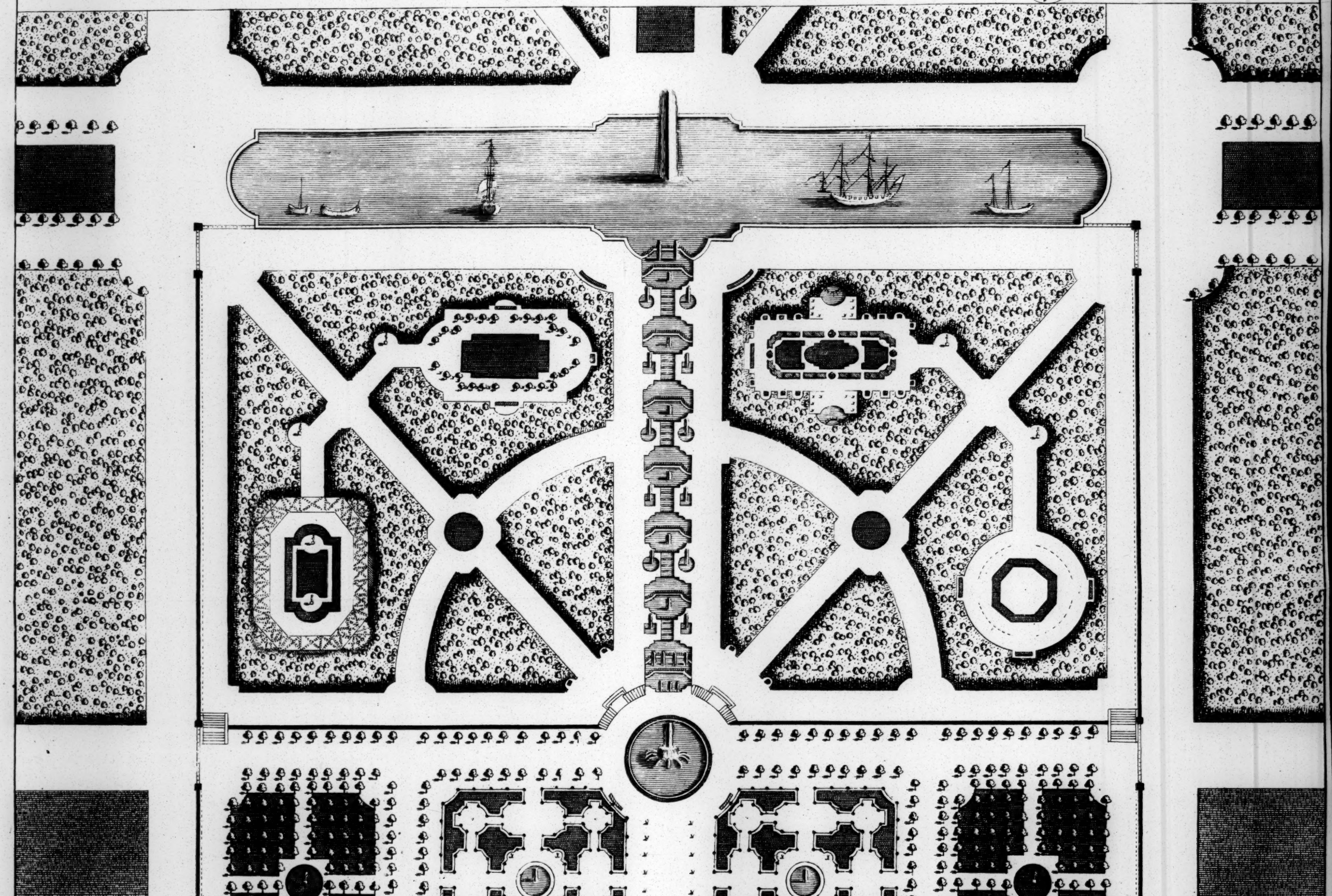


Pl.e A.

5 10 20 30 40 50 60 Fathom.

M.I.Fec Gucht Sculp.

The geneal Disposition of a Garden whose Slope is in Front of ye Building .



The general Disposition of a Garden

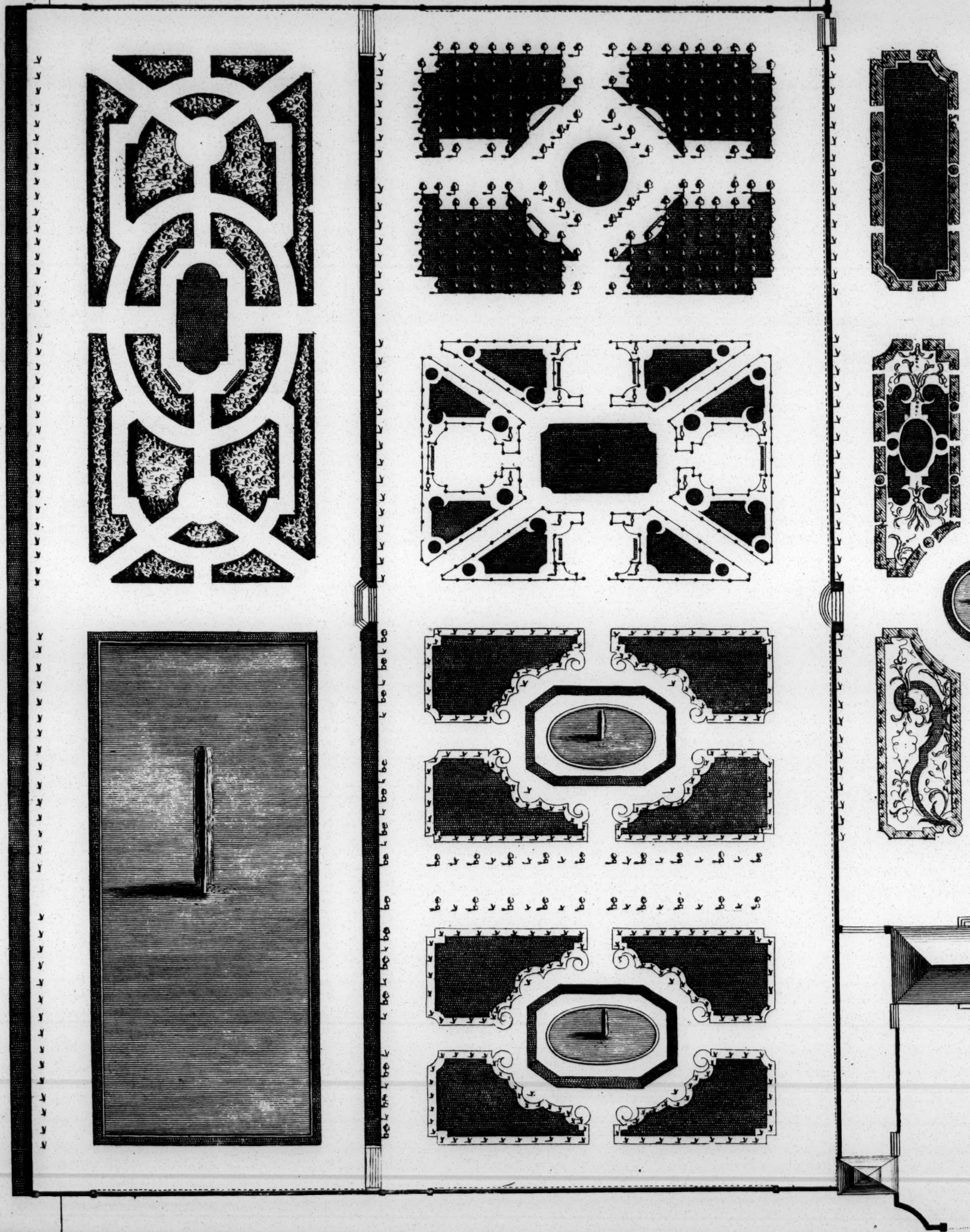
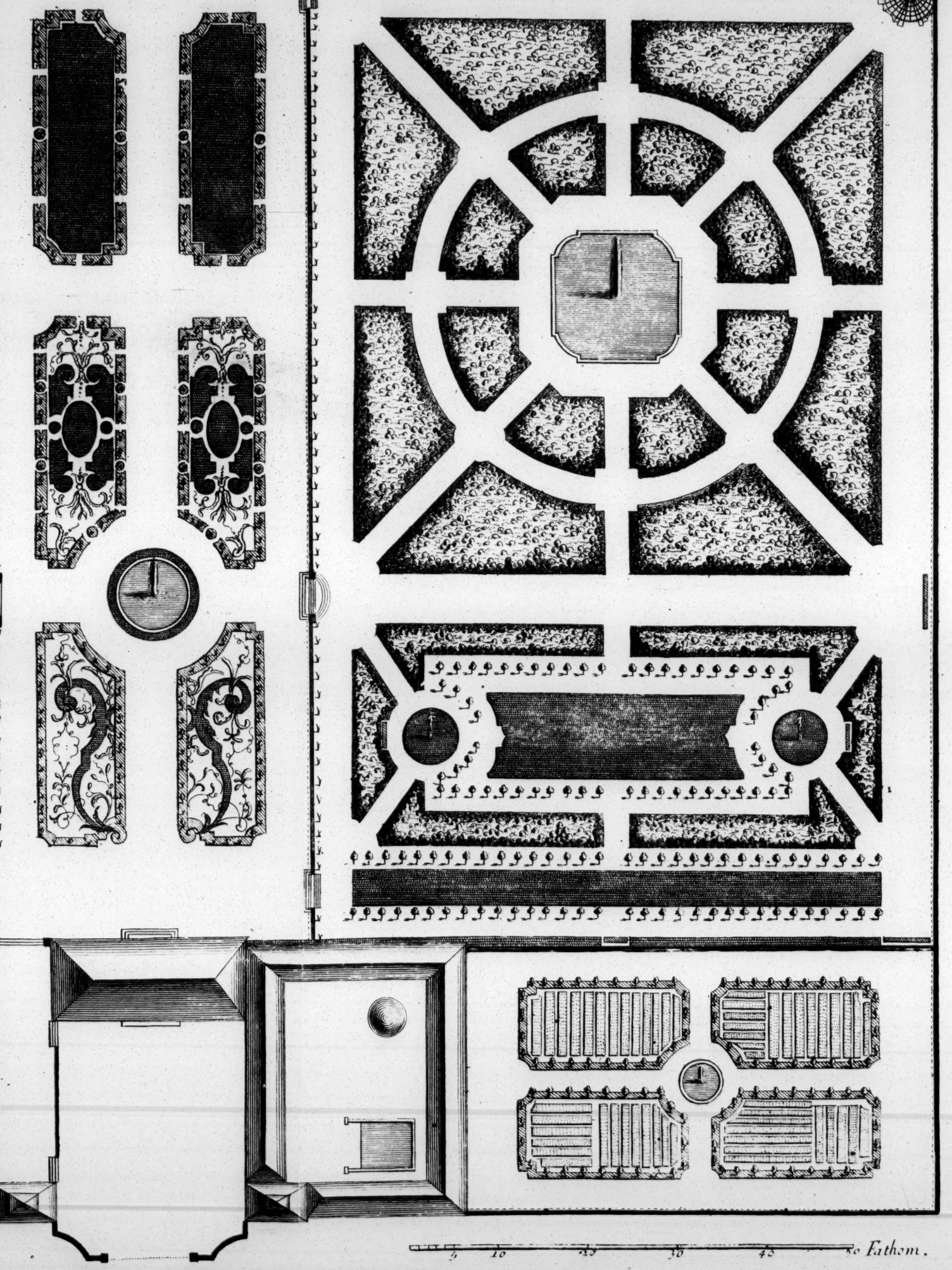


Plate 3d A.

where y^e Declivity is Sideways.



10 15 30 45 60 Fathom.

M.I. 3re ejecit. Scul:

The general Dispesition of a Garden of Six Acres.

fig: 1st.

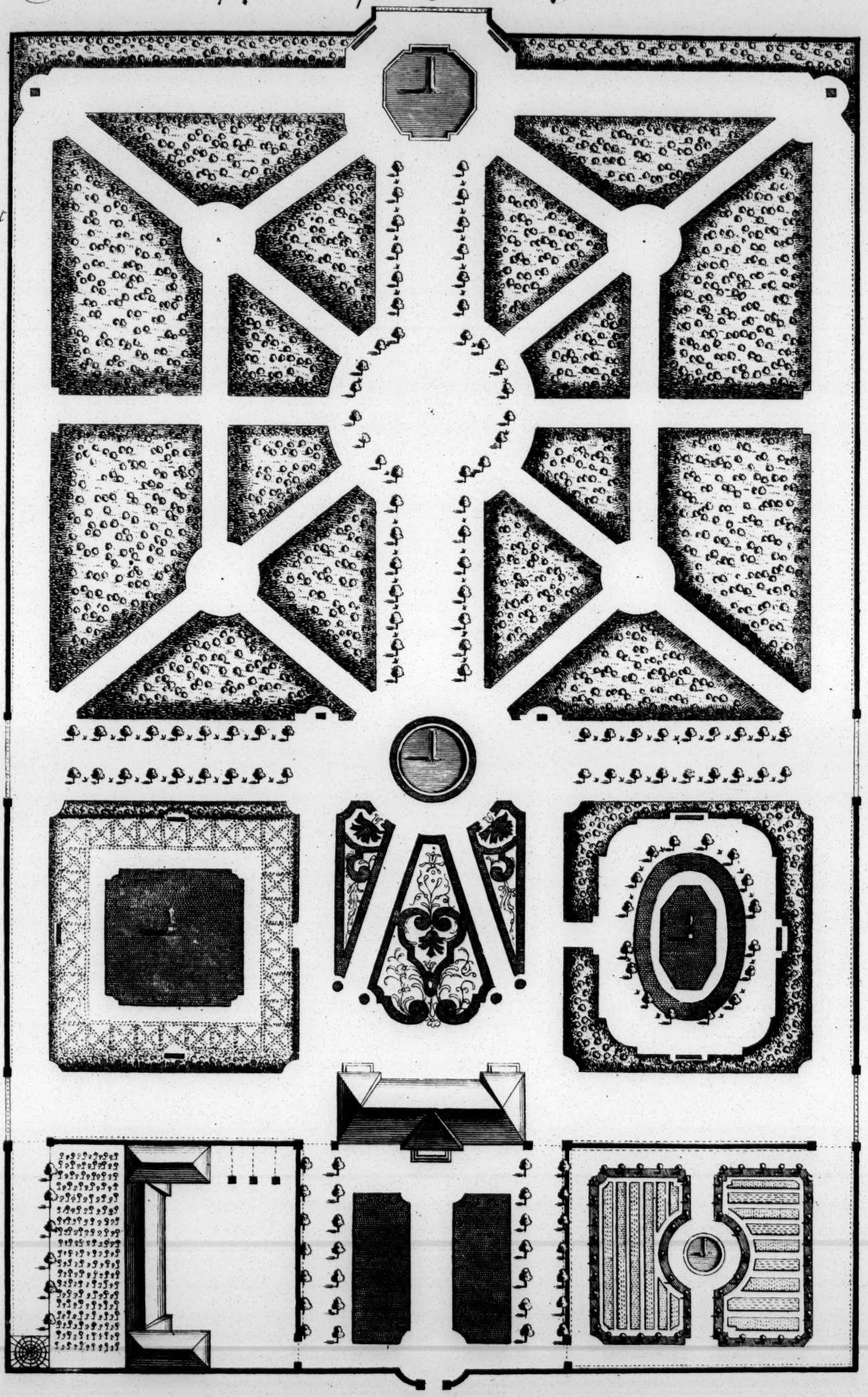
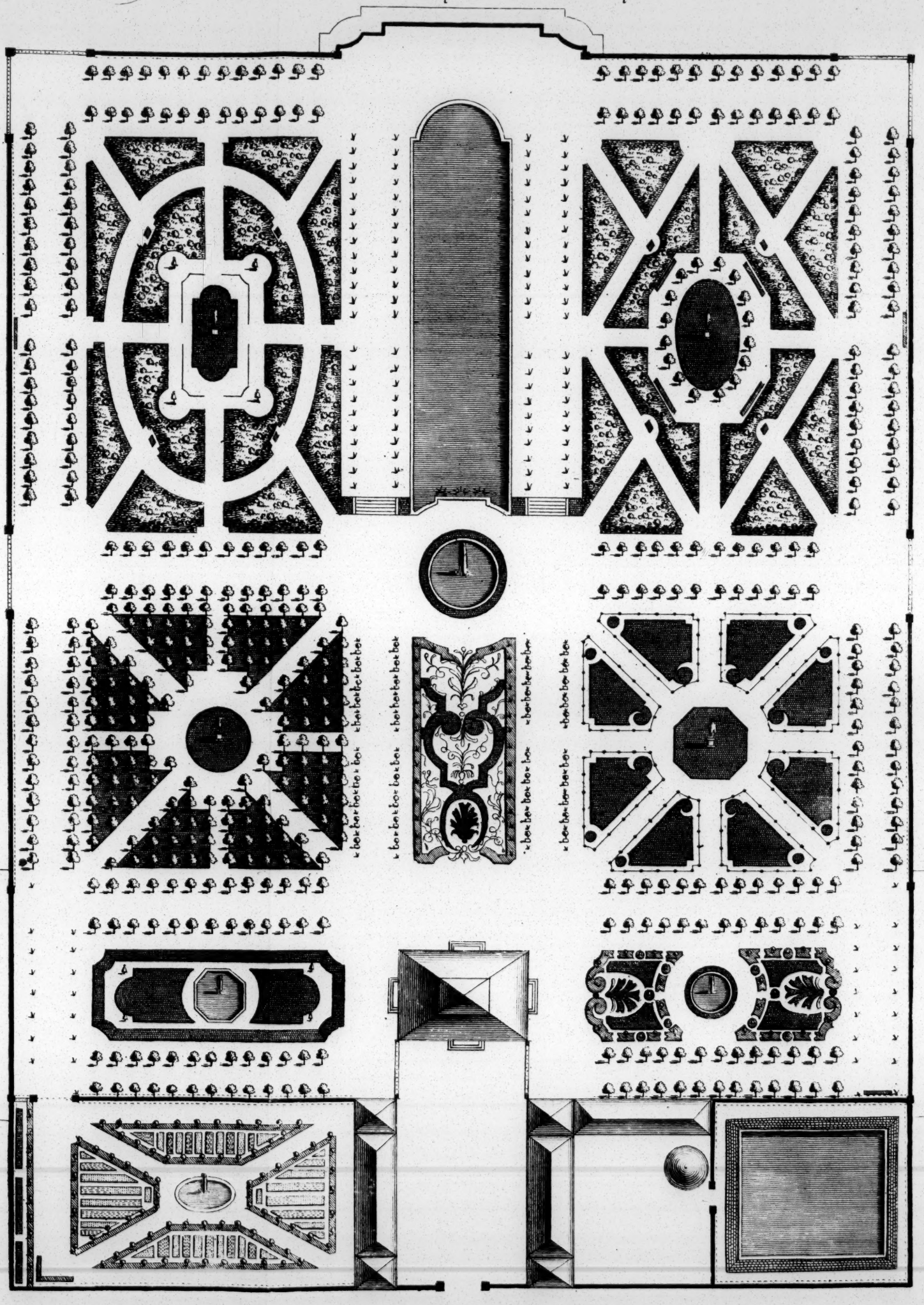


fig: 2d.

30 15 10 5 Fathom

The general Disposition of a Garden of Twelve Acres.

fig: 2d



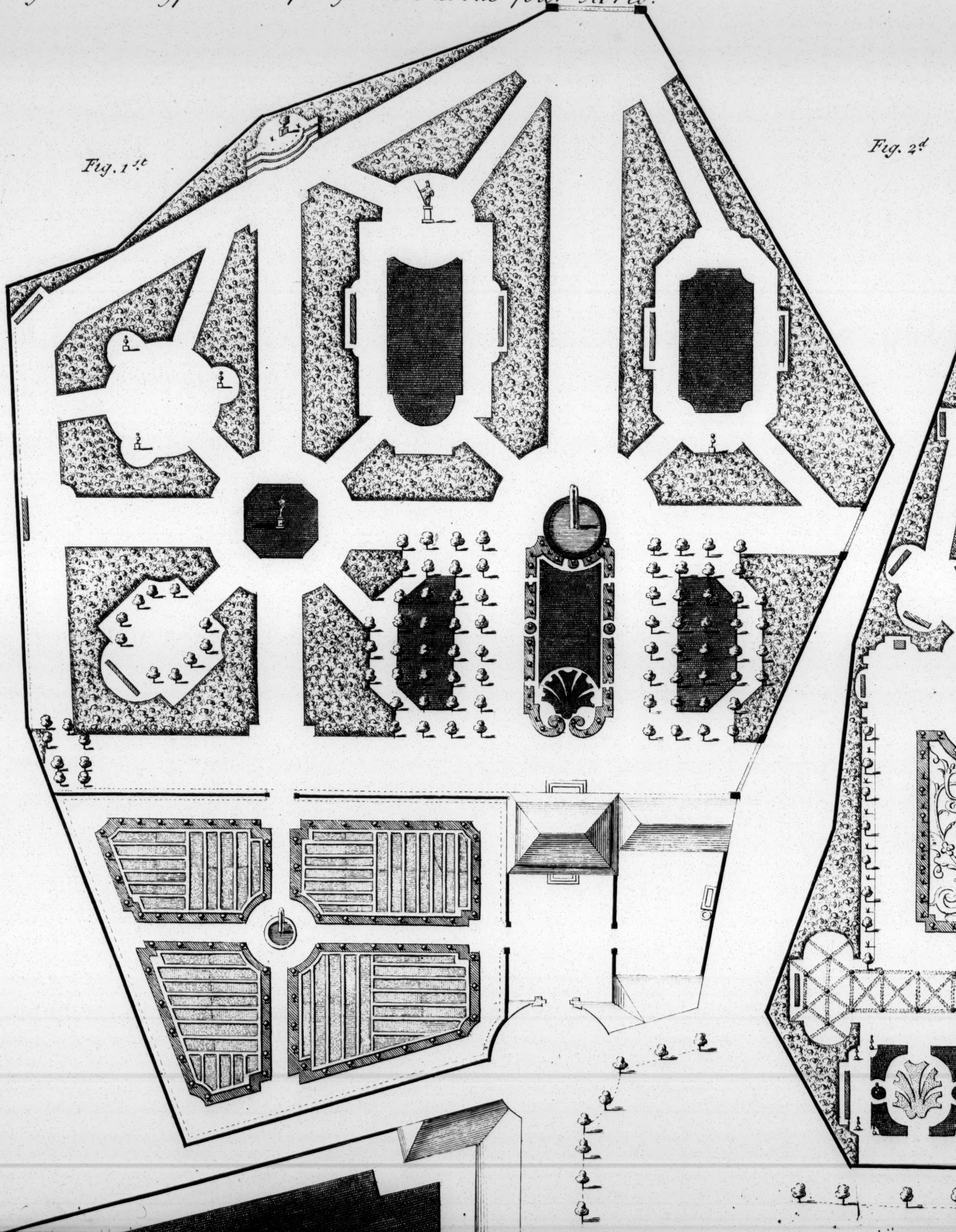
30 15 10 5 Fathom

Pl. 4th A

The General Disposition of a Garden about four Acres.

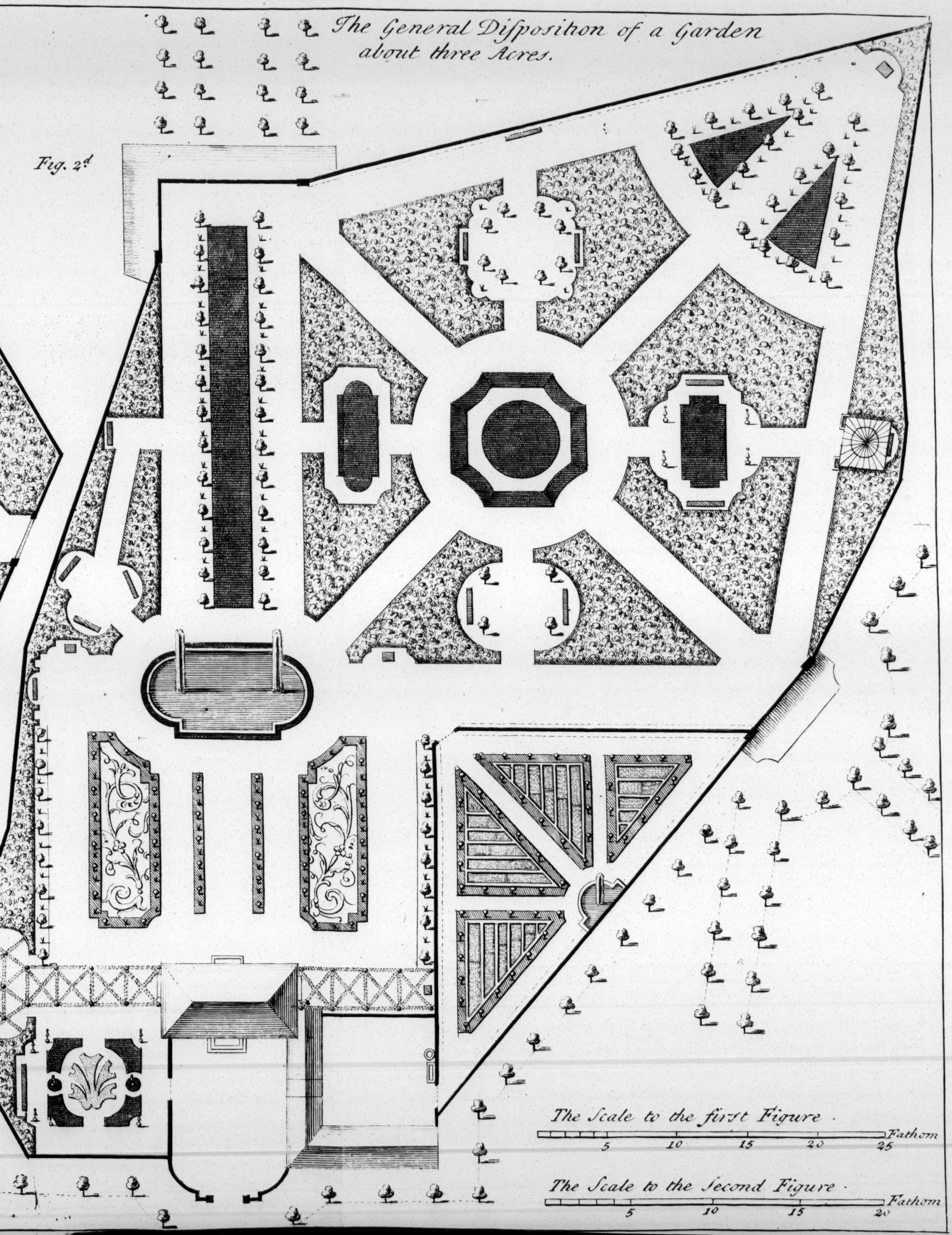
Fig. 1st

Fig. 2d



The General Disposition of a Garden about three Acres.

Fig. 2d



The Scale to the first Figure.

5 10 15 20 25 Fathom

The Scale to the second Figure.

5 10 15 20 Fathom

CHAP. IV.

Of Parterres and Borders of ſeveral Kinds.

THE Name of *Parterre* has its Original from the *Latin* Word *Partiri*, to *divide*; and according to ſome, a Parterre denotes a flat and even Surface. *Dictionary of the* French *Academy.*

THE Compartiments and Borders of Parterres are taken from Geometrical Figures, as well right-lined, as circular, mix'd, *&c.* They take various Deſigns into their Compoſition, as Branches, Flowers, Palms, Foliage, Hawks-Bills, Darts, Tendrells, Volutes, Knots, Roots, Claſps, Chaplets, Beads, Stalks, Cartoozes, Strings, curtailed Leaves, Wolves-teeth or Trefoils, Plumes, Compartiments, Frets, or Interlacings, Wreaths, and Shells of Graſs, Paths, Borders, *&c.* And ſometimes to theſe are added the Deſigns of Flowers, as Roſes, Pinks, Tulips, and the like. Menage, Richelet.

FORMERLY they put in the Heads of Greyhounds, Griffins, and other Beaſts, with their Paws and Talons; which had a very ill Effect, and made Parterres look very heavy and clouterly.

THE Deſigns we ſee now-a-days are quite different; and 'tis pretended, that to have Embroidery look well, it ſhould be light, regular, and not confuſed; which often occaſions the falling into the contrary Fault to what they were in heretofore; and, out of a ſtudious Endeavour to make Parterres appear light and free, they make them utterly unfurniſh'd, and with an Embroidery ſo thin and meagre, that it makes no Figure upon the Ground; but in four or five Years time you are obliged to pull it up again, the Edgings of Box coming to touch and interfere one with another. A

juſt

juſt Mean ſhould be obſerved in Things of this Kind, equally avoiding too great a Slenderneſs, as well as too great a Maſſyneſs of Ornaments.

IT may not be improper here to warn the Reader againſt the Notion ſome People have got, that Parterres are the moſt difficult things to invent; and that theſe Pieces require more Skill and Application than the general Diſpoſition of a Garden. Now although it be agreed, that Parterres are the moſt rich and delicate Part of a Garden, they are however but Parts of a fine Whole; that is to ſay, of a general Plan. It is the ſame thing to ſay, that a Chamber is more difficult to contrive and beautify than a large Building, of which it makes but a part. In like manner, Parterres are to be eſteem'd as ſmall Matters of Invention, compared with the Diſpoſitions and general Diſtributions of Gardens.

ALL Parterres are near alike; the Subject being exhauſted in five or ſix Deſigns, one always falls into the ſame Track, and the Form becomes almoſt common; but general Diſpoſitions are always different, 'tis the Situation of the Place that governs them: Each of them requires a new Turn of Thought, and a Compliance with Nature, ſo as carefully to redreſs what is defective, and improve what is happily placed: For a Proof of this, there are no two Gardens ſo perfectly like one another as two Parterres, unleſs it was done with deſign to make them alike.

PERHAPS the Reaſon why theſe Perſons make a Myſtery of deſigning and inventing a Parterre, is, that they are not capable of any thing elſe; and that a general Plan, as a Grove finely ornamented, will preſently put them to a nonplus; like a Painter who can draw nothing but a Head, and cannot finiſh the intire Figure. Or it may be from the greater Want that private Gentlemen have of a Parterre, than other Pieces for which there is no room in their ſmall Gardens, and ſo they look upon them as uſeleſs, and infinitely inferior to Parterres. Beſides, when a whole Garden is well contrived, well diſpoſed, and there is nothing but the Parterre that has an ill Effect, it is eaſy to pull it to pieces, the ſame Box ſerving to plant a new Deſign, and this at no conſiderable Expence. But the caſe is very different in a general Plan, or in a large Grove; when theſe are once planted, there is no making an Alteration

tion but at very great Charges. We ſee then by this, of what conſequence it is, that the general Diſpoſition ſhould be good. There are a great number of Parterres that are tolerable, and ſome very good; but there are few general Diſpoſitions of Gardens that are perfect and well-conſider'd, with regard to the Nature of the Place; there always ſeems to be ſomething further to wiſh for.

THERE are divers Sorts of Parterres, which may be all reduced to theſe Four that follow; namely, Parterres of Embroidery, Parterres of Compartiment, Parterres after the *Engliſh* Manner, and Parterres of Cut-work. There are alſo Parterres of Water, but at preſent they are quite out of Uſe.

PARTERRES of Embroidery are ſo called, becauſe the Box wherewith they are planted, imitates Embroidery upon the Ground. Theſe are the fineſt and moſt magnificent of all, and are ſometimes accompanied with Knots and Scrolls of Graſs-work. Their Bottom ſhould be ſanded, the better to diſtinguiſh the Foliage and Flouriſh'd-work of the Embroidery, which is uſually filled with * Smiths-Duſt, or black Earth.

PARTERRES of Compartiment differ from thoſe of Embroidery, in that the ſame Symmetry of Deſign is repeated, as well in reſpect of the Ends, as of the Sides. Theſe Parterres are made up of Scrolls and other Graſs-works, Knots, and Borders for Flowers, with a little well-diſpoſed Embroidery; which Mixture produces an Effect very agreeable to the Eye. The Ground of theſe ſhould be very well made, and filled with Sand between the Leaves; the narrow Paths that ſeparate the Compartiments, we uſually diſtinguiſh with † Tileſhards powdered, or Brick-duſt.

PARTERRES after the *Engliſh* Manner are the plaineſt and meaneſt of all. They ſhould conſiſt only of large Graſs-plots all of a piece, or cut but little, and be encompaſſed with a Border of Flowers, ſeparated from the Graſswork by a || Path of two or three Foot wide, laid ſmooth, and ſanded over, to make the greater Diſtinction. We give it the Name

* Mâchefer, i. e. *Droſs, or Scales of Iron. Smiths Duſt is either the Scales beaten off at the Anvil, or Iron-Filings.*

† *Fr.* Ciment, i. e. *powdered Tile, or Brick, mix'd with Lime, which makes excellent Mortar, and is uſed by the* French *in Works under Water.*

|| Sentier ratiſſé, *by which the* French *underſtand a Path raked over only, and not rolled, as it is generally tranſlated, to comply with our Cuſtom of Rolling, which is not ſo much uſed by the* French, *their Gravel rarely binding, as ours does.*

of *Parterre à l'Angloiſe*, becauſe we had the Manner of it firſt from *England*.

PARTERRES of Cut-work, tho' not ſo faſhionable at preſent, are however not unworthy our Regard. They differ from the others, in that all the Parts which compoſe them ſhould be cut with Symmetry, and that they admit neither of Graſs nor Embroidery, but only Borders edged with Box, that ſerve to raiſe Flowers in: and by means of a Path of convenient Breadth that runs round each Piece, you may walk through the whole Parterre without hurting any Thing: All theſe Paths ſhould be ſanded.

PARTERRES of Embroidery, being the fineſt, ſhould poſſeſs the principal Place, and lie next the Building: Thoſe of Compartiment ſhould accompany them; and the Parterres after the *Engliſh* Faſhion may ſerve to fill up the greater Spaces and the Orangeries, and then we call them *Parterres d'Orangerie*. Thoſe of Cut-work are proper for ſmall Places where you would raiſe Flowers, and then 'tis called, likewiſe, *Parterre Fleuriſte*.

YOU may diſpoſe Parterres ſeveral ways, as the Place ſhall require; either by cutting them into two long Quarters repeated with a Walk in the Middle, or making only one Square of Embroidered-work, with Walks upon the Sides; or cutting them by diagonal Walks, into four pieces, which make a St. *Andrew*'s Croſs; and ſometimes into Quarters arched at one end; of all which you have Examples in the following Plates.

THE beſt way of deſigning a Parterre, is, to give it a Figure and Shape agreeable to the Place, and to the Building, not cutting it, for inſtance, into two pieces, when the Place, by its narrowneſs, admits but of one; this would be to ſpoil it: or the Parterre may be diſpoſed into a St. *Andrew*'s Croſs, when the Doors are at the Ends of the Building, and each diagonal Walk can be made to anſwer them.

AS the proper place for Parterres is near the Building, their Breadth ſhould be that of the whole Extent of the Body of the Houſe, or ſomewhat more: as to their Length, it ſhould not exceed ſuch a proportion, but that the Eye, when near the Building, may diſcover all the Embroidery and Compartiments. This Length may be twice or thrice their Breadth,

Breadth, for they always fore-ſhorten themſelves ſufficiently to the ſight; and Figures ſomewhat oblong, appear better upon the Ground than thoſe that are Square. The Branch-Work ſhould not be made too long, that the Eye at one View may not loſe the general Intention of the Embroidery; in a large piece therefore, the Deſign ſhould be cut aſunder by Cartoozes, Knots, and Shells of Turf to break this great Length; and the Riſe or Springing of the Stalks, Palm-Branches, *&c.* ſhould be always made with ſome kind of Reaſon, and iſſue without confuſion from the Knots of the Scroll-work and Volutes upon the Sides, or from the Flowers and Cartoozes in the Middle; otherwiſe they have a very ill Effect.

WHEN theſe principal Lines are drawn, the reſt of the Ground is to be filled up with Tendrels, Beads, Claſps, Husks, with their Backs againſt the Borders, and Cartoozes; ſo that leaving no great Vacancies, the Parterre may look pretty equally diſpoſed throughout. It is beſt to put in but little Turf, becauſe it is a conſtant Charge to keep. In ſmall pieces, you may make, inſtead of Graſs, two double Lines of Box, the Path between which may be of red Sand, and the Middle of black Earth, or Smith's Duſt, to diſtinguiſh it; but it is the Faſhion at preſent to put in a pretty deal of Turf, and ſome fancy a Parterre has no Beauty without it: But this is mere Prejudice; there are fine Parterres that have no Graſs, and there are others where there is an abſolute need of having it, to break off the too great Length or Extent of the Branches.

IT muſt be obſerved, that at preſent we do not ſuffer the Box to grow high, and that large Yews, and the like Shrubs, are no longer made uſe of in Parterres, becauſe theſe differing very much from the Woods and Walks of tall Trees, that make the Relief of a Garden, ſhould be flat, even, and diſ-engaged, as open Places; for when large Yews are ſet in it, a Parterre looks like a Wood, clouds the View, and hides the Beauty of the Buildings that are uſually near it. Yews and Shrubs therefore, on a Parterre, ſhould never be permitted to grow above four or five Foot high at moſt.

PARTERRES likewiſe differ much from other parts of a Garden, in that they are finer at their firſt planting than

they are afterwards; nothing but a great Attendance and continual Care taken of them can prevent this Decreaſe of their Beauty: For the Box in growing deſtroys the Delicateneſs of the Deſign; the Earth waſhed by the great Rains no longer keeps its level Surface; the Sand loſes its Colour in being mix'd with the Earth by Raking; and the Graſs becomes full of Moſs. The Box therefore muſt be kept very low, and be neatly clipp'd twice a Year, leſt the Contour of it be alter'd by an unskilful Hand; the Sand ſhould be often renewed, that the Embroidery may be better diſtinguiſhed; and, above all, the Turf ſhould be mowed and edged every Month, beſides being changed every three or four Years. This is the Excellency of Parterres, and that in which their chief Beauty conſiſts. Theſe are not commonly the moſt neglected parts of a Garden, they are too near the Maſter's Eye for that.

THE Borders of Parterres ſerve to bound and ſecure them, that they be not hurt by walking in them. They become likewiſe ornamental to them by the Yews, Shrubs, and Flowers that are raiſed in them. Four Foot is uſually allow'd for the Breadth of the ſmaller, and five or ſix Foot for that of the larger Borders; they are always made riſing in the Middle, like an Aſs's Back, being no way agreeable to the Eye when they are flat: they are generally edged with a Line of Box; but in the parts that are cut, they are often bounded with Daſies, Sea-thrift, Panſys, *&c.*

OF Borders there are four Sorts: The moſt common are thoſe that are continued about Parterres without any Interruption, and are wrought like an Aſs's Back, and ſet out with Flowers, Shrubs, and Yews.

THE ſecond Kind is a Border cut into Compartiment, at convenient Diſtances, by ſmall Paſſages, and is likewiſe adorned with Flowers and Shrubs, being raiſed in the Middle as before-mentioned.

THE third Sort has its Borders all even and flat, without Flowers, having only a Verge of Graſs in the Middle, bounded by two ſmall * Paths raked ſmooth and ſanded. Theſe are ſometimes garniſhed with Yews and flowering Shrubs, or with Vaſes and Flower-Pots ſet regularly along the Middle of the Verge of Graſs.

* Sentiers rateſſés, *vid.* *p.* 41.

THE

THE Borders of the fourth Sort are quite naked, being only ſanded, as in the Parterres of Orangery, and are filled with nothing but Cheſts or Caſes ranged regularly along the Borders, which, on the Sides next the Walks, are edged with Box; and on the other, with the Verges and Graſs-work of the Parterre. Sometimes Yews are planted between each Caſe, which makes the Borders look richer, and the Parterres much handſomer, during the Winter, when the Caſes are in the Green-houſe.

THERE are likewiſe Borders made up againſt Walls, edged with Box, and filled with great Trees, as Limes and Horſe-Cheſnuts, between which are ſet Yews, Shrubs, and Flowers of a large Kind.

BORDERS are made ſtrait, circular, or in Cants, and are turned into Volutes, Scrolls, Knots, and other Compartiments.

FLORISTS likewiſe make uſe of * Borders either detached or along Walls, which they encompaſs with Border-boards painted green, that are exceeding neat, and in theſe they raiſe their fineſt and choiceſt Flowers; but this is not to be looked for in large Parterres, where it is ſufficient to have them ſtocked with Flowers in their ſeveral Seaſons as they ſucceed one another, that nothing appear bare and naked, as may be ſeen in the third Part.

* *French* Plates-bandes iſolées. *Borders that lie free, and join to nothing.*

'TIS the Cuſtom at preſent to diſcontinue the Borders upon the Ends next the Houſe, that the Shrubs and Flowering Plants may not hide the Embroidery and Riſe of the Parterre, and that the Deſign may be the better judged of. Sometimes there are branched out of it Foliage, Palm-Leaves, and Shells ſporting among the Sand; but theſe are liable to be ſpoiled, having no Border to ſecure them, or hinder them from being trod upon.

THE Paths of Parterres are not made to walk upon, but only to diſtinguiſh the Pieces of Compartiment; but in the Parterres of Cut-work they are larger, and may ſerve for that purpoſe.

THE two firſt Plates repreſent, in large, the ſame Deſigns of Parterres, as thoſe deſcribed in little, in the firſt Plate of the general Diſpoſitions in the preceding Chapter.

THE firſt Plate that follows, is a large Parterre of Embroidery mix'd with Knots of Graſs-work, and environ'd with a Flower-Border ſet off with Yews and Shrubs. This Deſign, tho' entire, and not cut in the Middle, is here ſuppoſed to be repeated on the other Side, with a Counter-walk of flowering Shrubs and Yews, and a great Baſon at the End, which is uſually made when the Place will admit of it. The Scroll that you ſee at one of its Corners, may poſſibly look ſomewhat extraordinary; but when you conſult the general Plan, *Chap.* III. *Fig.* 1. from whence this is drawn, you'll ſee the good Effect it makes with what is repeated on the Corner of the Parterre of Compartiment that is by it. This angular Scroll may be ſet aſide, if you make uſe of this Deſign for one Square only, and its Place ſupplied by adding a Sprig, and making a Sweep at the Head of it for a circular Walk round the Baſon. The Knots and Scrolls of Graſs-work throw out all the Sprigs and Palm-Leaves of this Embroidery very naturally, which is eaſily diſcovered by the Interruption of the Border upon the Fore-part.

THE ſecond Plate ſhews a long Parterre of Compartiment, with a Baſon in the Middle, ſurrounded with a Border of Cut-work, as are thoſe Borders likewiſe upon the Sides, where they proceed to join the Scroll-work of the other Borders that form the Compartiment. The reſt of the Space is filled with Shells and Graſs-work, and the two Extremities with Cartoozees of Embroidery, which make a very agreeable Mixture. There alſo branch out ſmall Sprigs and Husks from the ſeveral Scrolls of the Borders: The Ground of this Parterre is laid with Sand, and the Paths with * powder'd Tile, or Brick-duſt. It is accompanied with two Walks of Trees that ſtand detached, and four Vaſes at the Corners.

* *Fr.* Ciment.

THE Parterre of the third Plate is one of the richeſt that can be; 'tis alſo in Compartiment, but can be put in execution only in a large ſquare Place. It conſiſts of four Cartoozes of Embroidery in its Fronts, and Shells of Graſs-work at the four Corners, all ſanded with Variety of Colours, and edged with Lines of Box. In the Middle is a Baſon ſurrounded with a Border of Cut-work, garniſhed with Yews and Shrubs, with Flower-plots ſet upon Plinths of Stone. The outer Borders are broke off in Front by each Cartooze, and at the Cor-

Corners are turned into Scrolls. At the Foot of this Parterre is ſuppoſed a * Bank of Graſs border'd above and below with a Row of Caſes and Yews, having in the Middle a Deſcent of Steps with a Half-pace, adorn'd with Figures and Vaſes. The Proportions of the Whole may be known by the Scale.

* *Fr.* Talus, *by which the* French *underſtand ſuch a Slope as the Outſides of thoſe Walls have, which reſiſt great Weights of Earth. A Slope that lies under the Diagonal of a Square, or leſs than 45 Degrees, they term* Glacis.

THE fourth Plate contains a Parterre of Embroidery cut into two Squares repeated, and varied two ways. There is a Walk in the Middle that leads to a Baſon, beyond which is a Gooſe-foot cut in a Wood. Of the two Compartiments, you may chuſe which you think moſt proper. I ſhall ſay nothing here of their Compoſition, the Explanation I have already given of the Parterres that went before, being a ſufficient Inſtruction for this alſo.

THE fifth Plate lays before you a Parterre of Embroidery of a very new Contrivance. 'Tis a large Square, arched at one End, with a Baſon beyond it. The Middle is filled with Embroidery and Knots of Graſs-work, with a Border about it, which is wholly cut away in the Front next the Houſe. It has nothing in it uncommon but at the Ends; at one of which there are two Dolphin's-Heads turned into Scrolls, from which the Paths and Knots of Graſs begin and take their Riſe. The other End is adorned with the Mask-Head of a Griffin, having Bats Wings, formed by the Turf-plots on the Sides, the Leaves of the Embroidery make the Noſe, Eyes, Brows, Muſtaches, and Tuft upon the 'Head of the Mask. Its Cravat, or Bib, is expreſs'd by a Shell of Graſs-work. Sands of various Colours very much contribute to ſeparate and diſtinguiſh theſe ſmall Compartiments, which make a wonderful Shew upon the Ground, when well executed. There are already made two or three Parterres of this Kind.

THE ſixth Plate is the moſt filled, and contains three Deſigns of Parterres, each of a different Kind. That of the firſt Figure, is a *Parterre à l'Angloiſe*; that is to ſay, all Graſs-work caſt into ſeveral Compartiments, and encompaſſed with a Border of Flowers cut in ſeveral places, and garniſhed with Yews and Shrubs. This Deſign, tho' nothing but Turf, is however very rich.

THE

THE Parterre of the ſecond Figure is all Cut-work. It is near ſquare, and is arched at the End for a Baſon, having its Corners hollowed out, and ſet with Yews. It is compoſed of a long Oval in the Middle, and of Cartoozes at the four Corners with Scrolls and Shells, all cut in ſeveral pieces, forming Borders that are adorned with Flowers and Shrubs regularly placed. All theſe Pieces are encloſed with Edgings of Box, and a broad * Path leads you round them, without hurting any thing. There are alſo narrow Paths about the Oval, and the four Cartoozes which ſhould be covered with red Sand.

* Sentier ratiſſé. *See p.* 41.

THE third Figure ſhews, how very fine a ſmall Parterre of Orangery may be made. 'Tis a long Square rounded at the Ends, where are made two circular Graſs-plots with Figures: The Middle is filled with a ſmall Piece of Water, which anſwers to the Portions of the Circles. Theſe three Pieces are encompaſſed with a Path and Edging of Box, which, with that on the Outſide, makes Borders that ſurround the Graſs-plots alſo. Theſe Borders being ſanded, and all ſmooth and even, are ſet out with Yews; between which are placed Caſes of Orange-Trees, Jaſmins, Myrtles, Laurels, *&c.* which ought to be kept in Lines with thoſe of the two Rows on the Sides.

THE ſeventh and laſt Plate contains three ſmall Patterres fit for Gardens in Town, of which you find the Diſpoſitions entire, and all different. The Walls and Ground are exceeding bevel and irregular, to ſhew how ſuch Defects may be redreſſed in ſmall Gardens, where they are much more obvious to ſight than in large Country-Gardens. Theſe Bevelings are ſuppoſed to be occaſion'd by the Lines of the Streets, and the Parterres are placed upon the Deſcent from the Houſe. The Scale is common to them all.

THE firſt Figure offers a very delicate Parterre of Compartiment, with a Figure in the Middle, and four Vaſes at the Corners. The Obliquity of the Side-walls is redreſs'd by the Flower-Borders which come off to nothing on one Side and the other. As to that at the Bottom, it is adjuſted by a very rich Portico of Lattice-work, with Seats and Figures facing the Walks. You find likewiſe a ſmall Break ſufficient for a Houſe to keep Flowers in; or, if you will, it may make a Bathing-place, or a Volery.

IN the ſecond Figure, you find a Place very irregular, and of Sides all different; the Elbow at the lower End is redreſſed by a Hedge of Horn-Beam, with Wood behind it, which keeping the oblique Line of the Wall, is nevertheleſs, cut regularly into ſeveral Cants and Returns, which form a green Hall, and in the Corner is a green Cabinet; there are alſo two Seats, and a Figure that ſtands detached, which do very well. The Break in the Front of the Building, and the Breadth upon the Side, gave occaſion to plant a Walk there to reconcile the Irregularity of the Ground: On the other Side there is no more than a ſingle Line of Trees, behind which the Slope is adjuſted by the Line of Box which edges the Border. The Embroidery of this Parterre is very delicate and tender; it is accompanied with two Graſs-Borders, upon which are regularly ſet, on Plinths of Stone, Vaſes of *Dutch*-Ware fill'd with Shrubs and Flowers of the Seaſon, which make a very agreeable ſight, and are leſs common than Yews.

THE Parterre of the third Figure is all of one piece, as the two others are; the Breadth of theſe Places not permitting to make them in two: The Deſign of it is very agreeable. The Inſides of the Scrolls and the Paths, which run round the Baſon, ought to have red Sand to diſtinguiſh them from the other Bottoms. This Baſon is purpoſely brought into the Parterre to gain ground. Beyond it are two ſmall Beds of Graſs ſet round with Horſe-Cheſnuts, which afford a very agreeable Cover in all this Half-Moon made by the Diſpoſition of the Walls at bottom. The other Bevelings upon the Sides are redreſſed by a Hedge as high as the Walls, in which are made Receſſes for Seats, as are alſo in Front of the Baſon, and on each Side the Deſcent from the Houſe; one of which is ſet under a little green Arbor.

I have avoided filling the Inſides of the Branches and Sprigs of the Embroidery with Daiſies or Sea-thrift, as the preſent Mode has introduced: This is contrary to a good Taſte, and is proper only for Knots, Paths, Shells, and Cartoozes, to make a variety and diſtinction from the Turf.

YOU muſt not fail to have Sand for theſe Parterres of diſferent Colours, for 'tis this makes the great Beauty of them.

* *Fr.* Ciment. *See pag* 41.

You may employ * powder'd Tile, or Brick-duſt, for the red; black Earth, Iron-Filings, or Smith's Duſt, for the black; and common Sand, or Gravel, for the white and yellow.

THAT you may know, by the Plates, what Places are to be filled with red, black, or yellow Sand; you are to obſerve, that the Points more diſtant from each other, denote the common Sand, or fine Gravel; and thoſe that are ſmall and cloſer together, as in the Paths about the Knots of Graſs-work, expreſs red Sand, or Brick-duſt. The Inſide of the Branch-work in the Embroidery, is filled with Iron-Filings, Smiths Duſt, or black Earth, which you may underſtand by the Lines croſſing one another. The Graſs of the Knots and Shell-works, is diſtinguiſhed by the right Lines intermixed with ſmall Points.

EACH Parterre has its particular Scale, by which you may know the Extent and Dimenſion of all the Parts which compoſe it. You may nevertheleſs alter the Proportions, widening, lengthning, or diminiſhing theſe Parterres, as the Place ſhall require; but this Enlarging or Diminiſhing ſhould be made with Diſcretion, and ſhould not be very conſiderable, as one Half, becauſe that would change the whole Deſign, and utterly ſpoil the Grace of it. In this you ought to conſult Perſons of Skill, and of a good Taſte; for very often, of a good Deſign, there is made a very bad one.

THESE ſeven Plates, which contain twelve Parterres, I think may ſuffice to give an Idea of all that they differ in. I was unwilling to inſert more, becauſe of the great number of Parterres already engraved and publiſhed, which may be had of the Sieur *Mariette* at *Paris*.

CHAP.

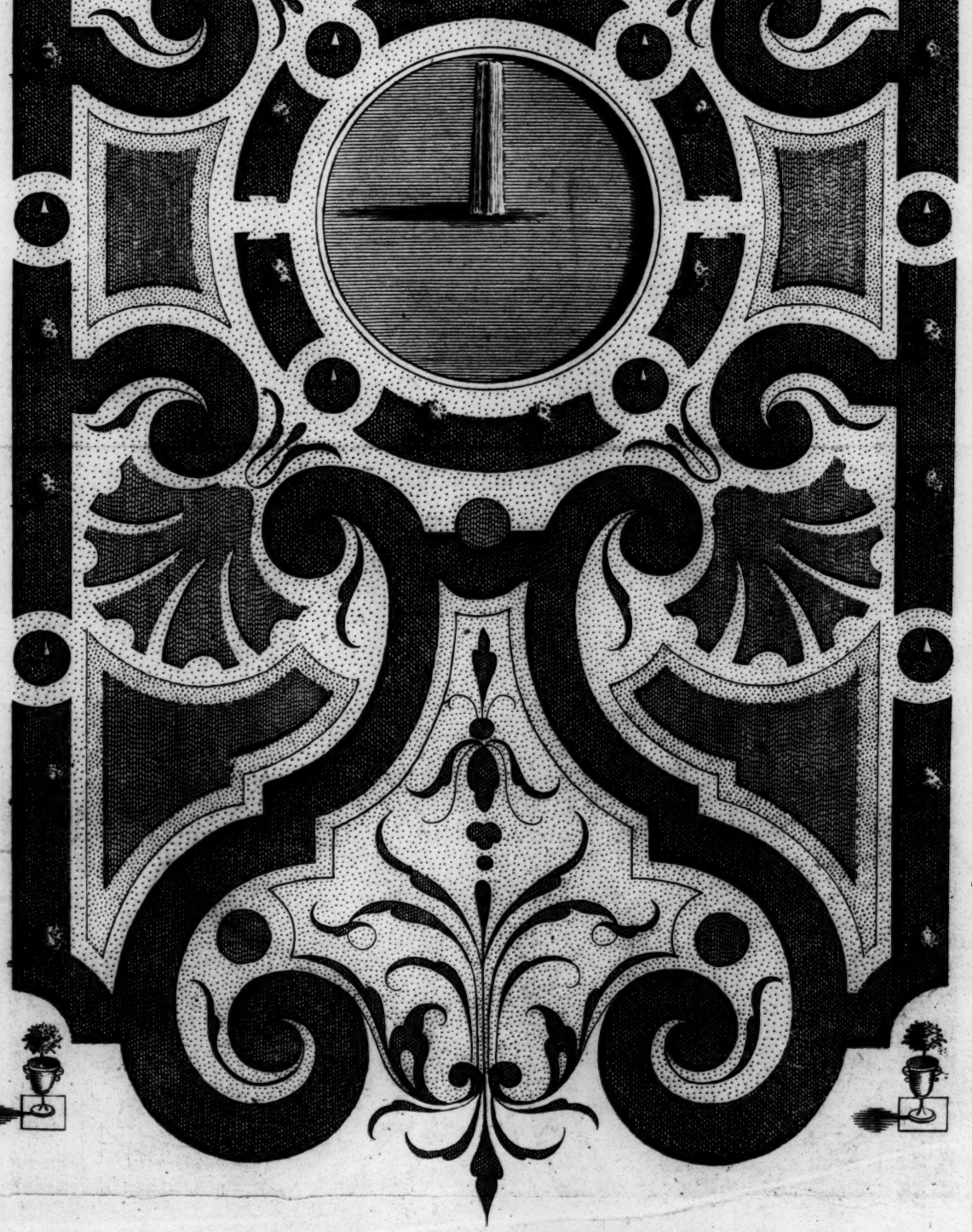


1 2 3 4 5 10 Fathom.

Pl: 1st. B.

M.V.or Gucht Scul.

A Parterre of Imbroidered Work mixt - wth Knots of Grass

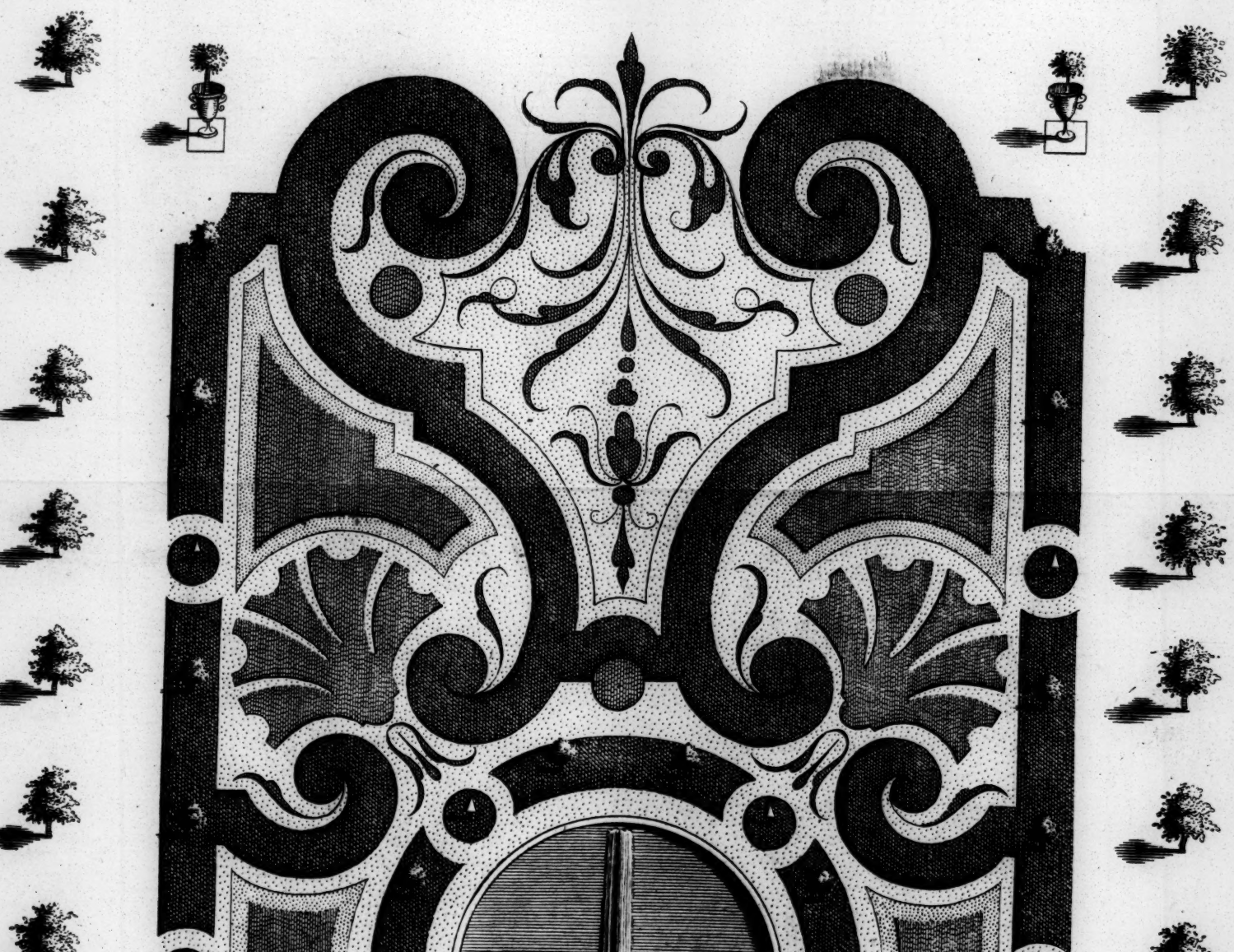


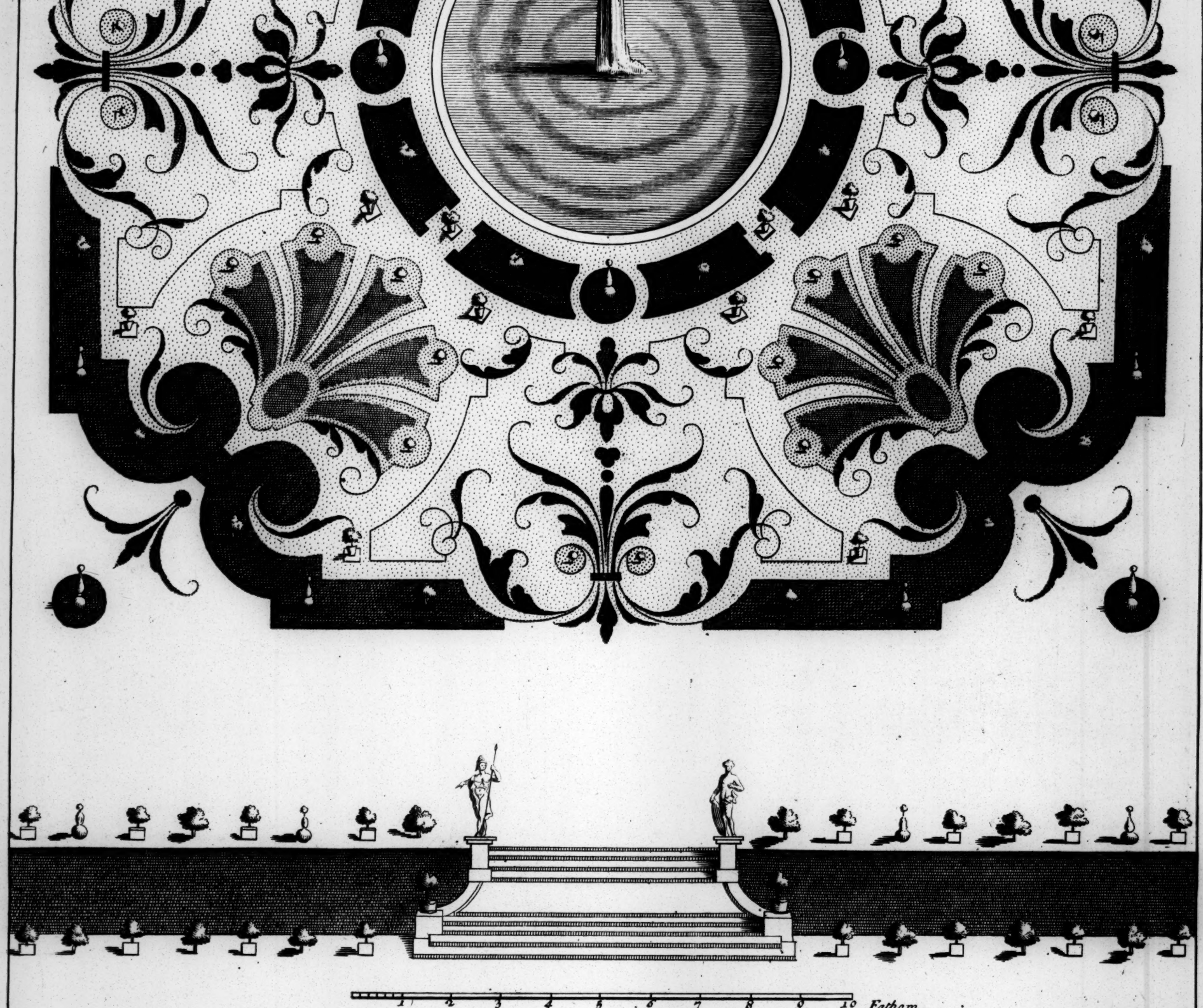
1 2 3 4 5 10 Fathom

Pl: 2d. B.

M.V.dr Gucht. Scul.

A Parterre of Compartiments.

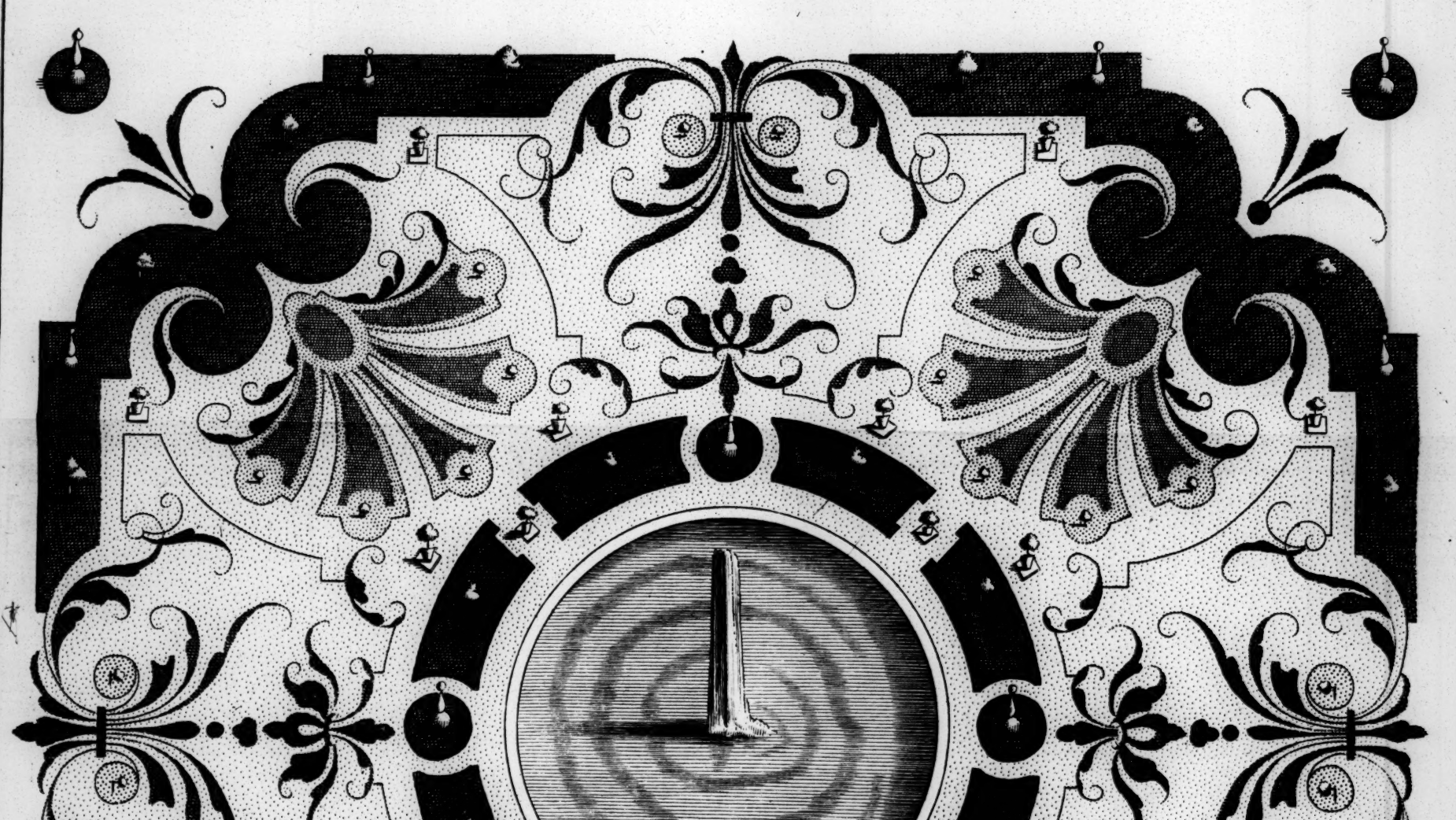




Pl.3.d B.

M. V.er Gucht-Scul.

A large Parterre of Compartiments.



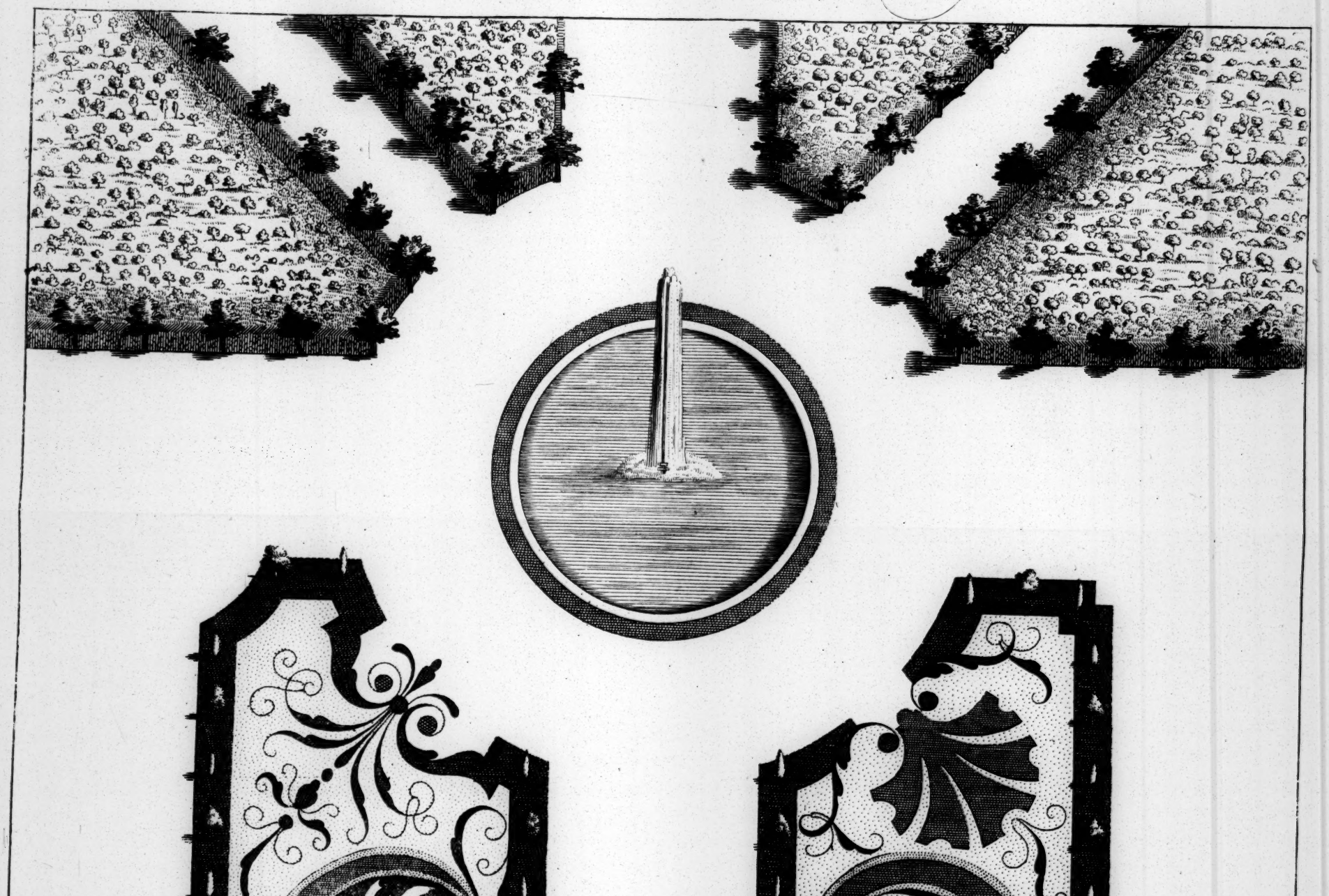


1 2 3 4 5 10 Fathom.

Pl. 4th B.

M.V.dr Gucht Scul.

A Parterre of Imbroidered work varied two ways.



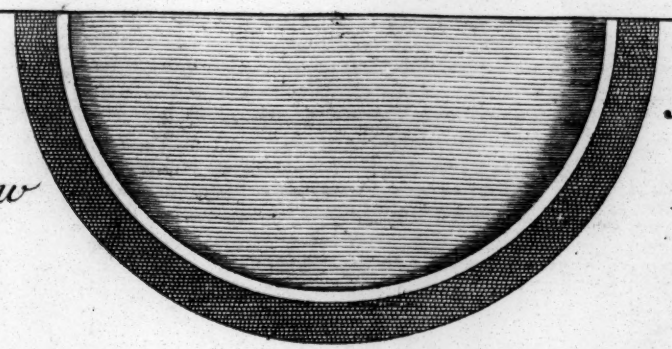


1 2 3 4 5 Fathom

Pl. 5th. B.

M. Vdr Gucht Scul.

A Parterre of a very new Jmbroidery of Design





A Parterre after y^e^ Englisſh manner .

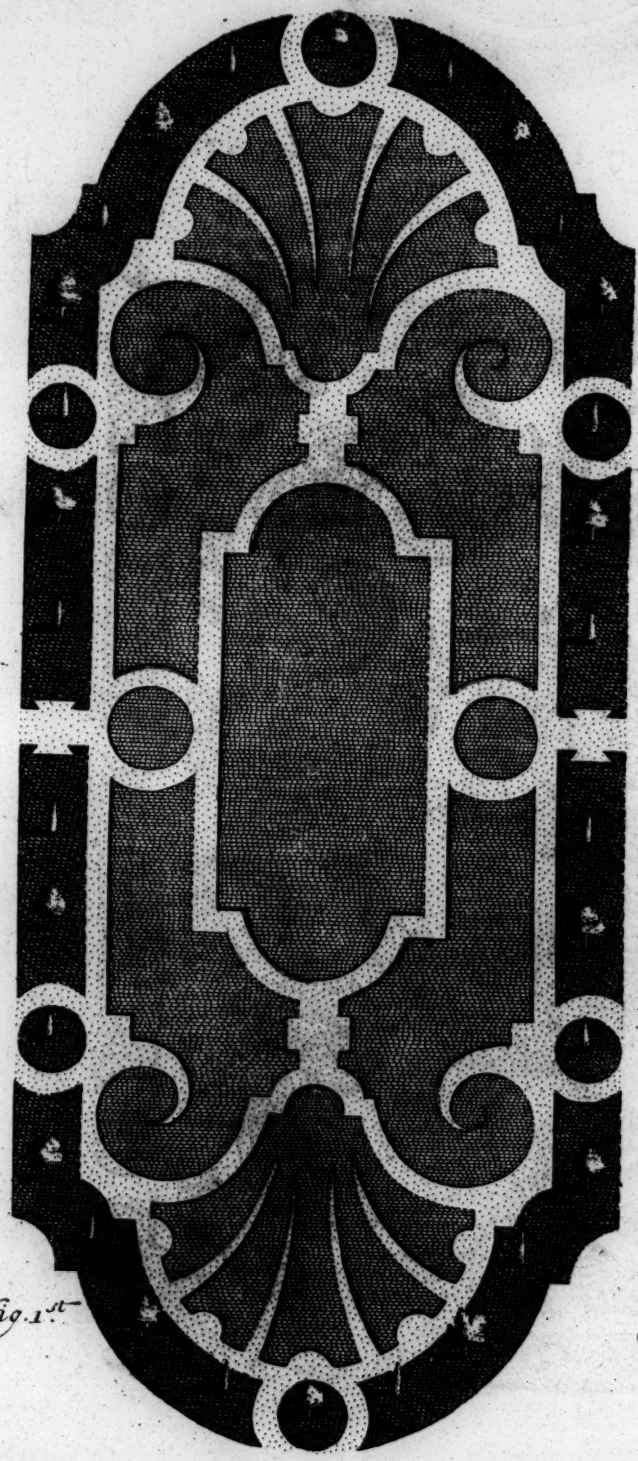
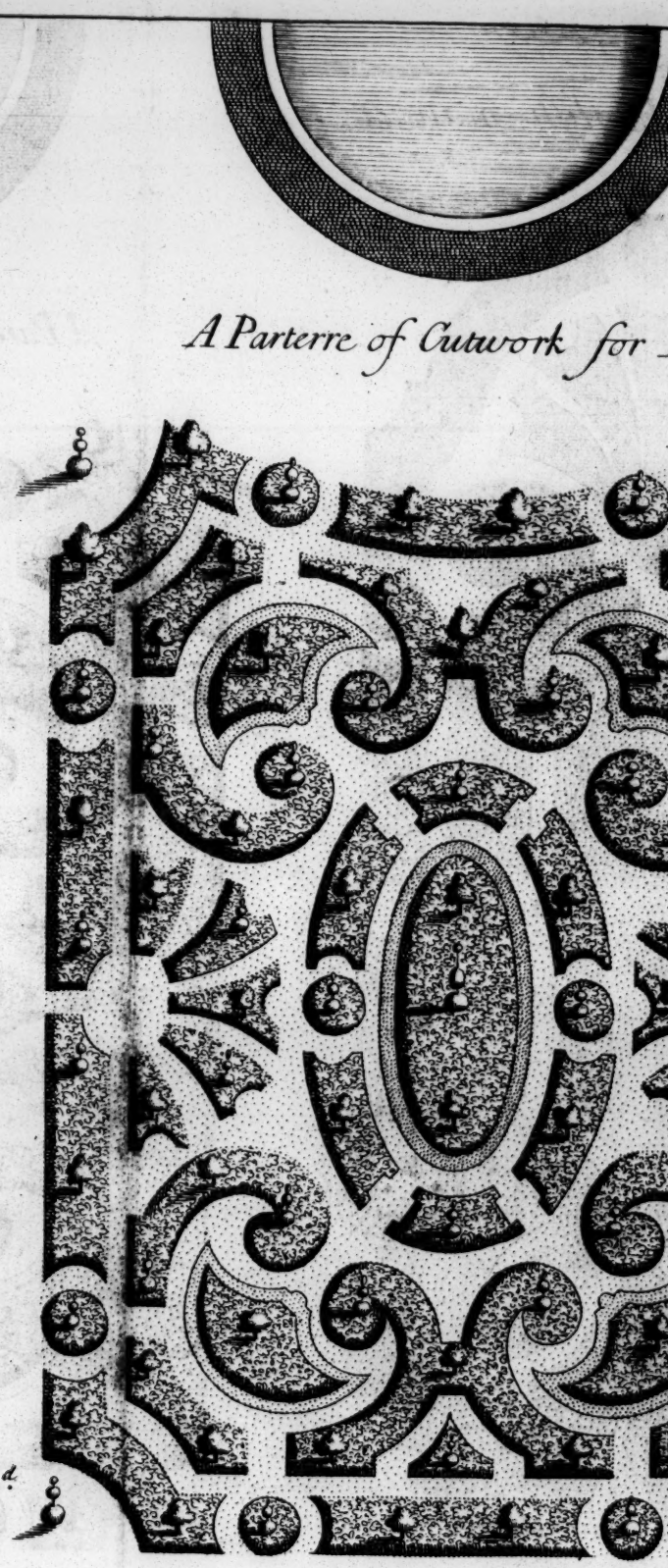


*fig. 1st*



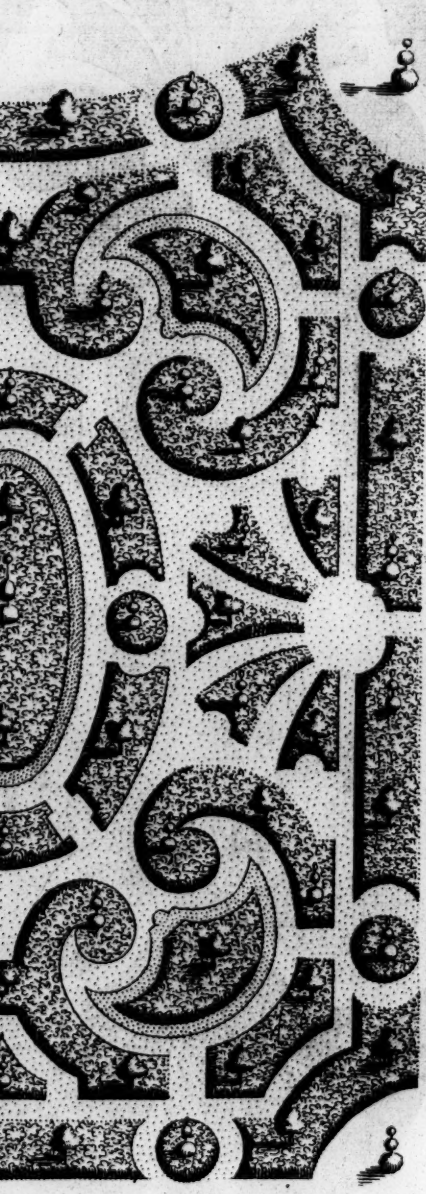
A Parterre of Cutwork for

*fig. 2^d^*

1 2 3 4 *Fathom*

1 2 3 4 5 6

utwork for Flowers.



4 5 6 Fathom

A Parterre of Orange Trees.

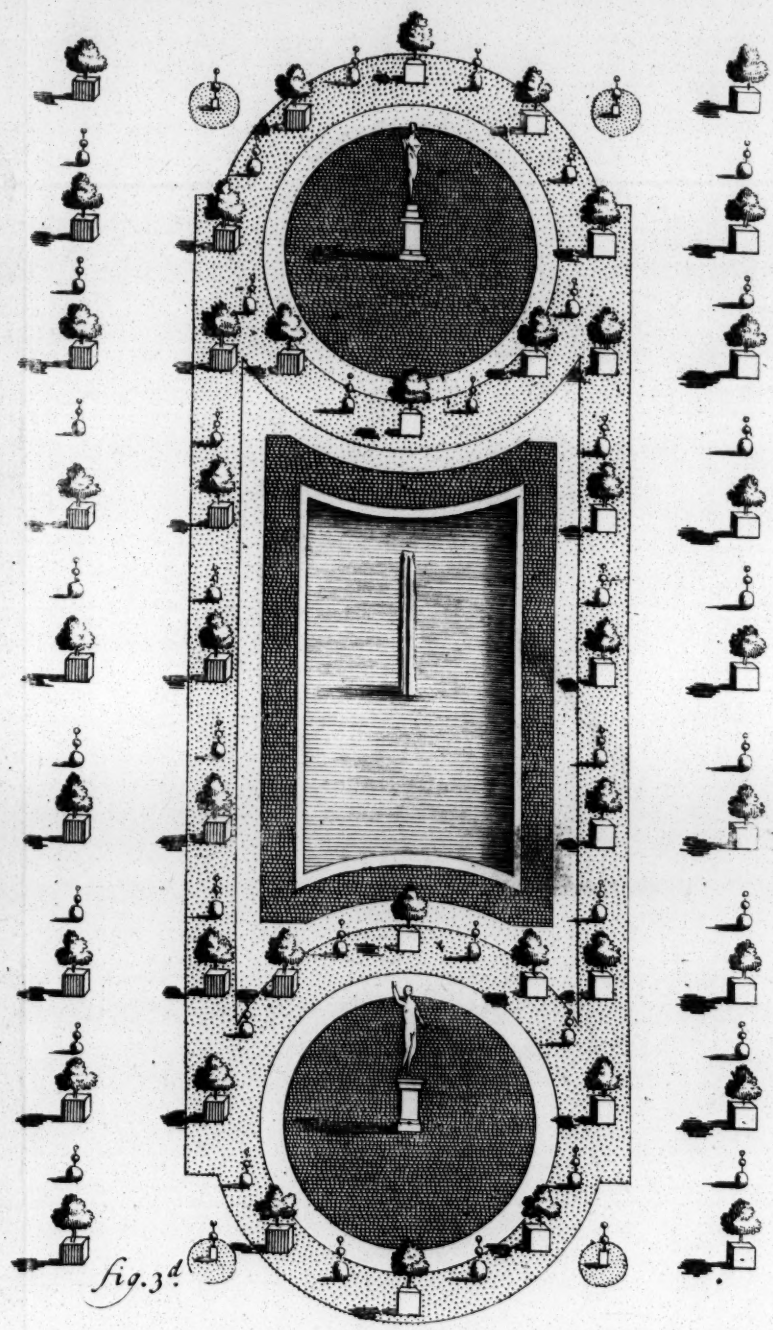


fig. 3d

1 4 3 4 5 6 Fathom

Pl. 6th B.

M V.dr Gucht Scul.

Small Gardens and Parterres for

Fig. 3.d

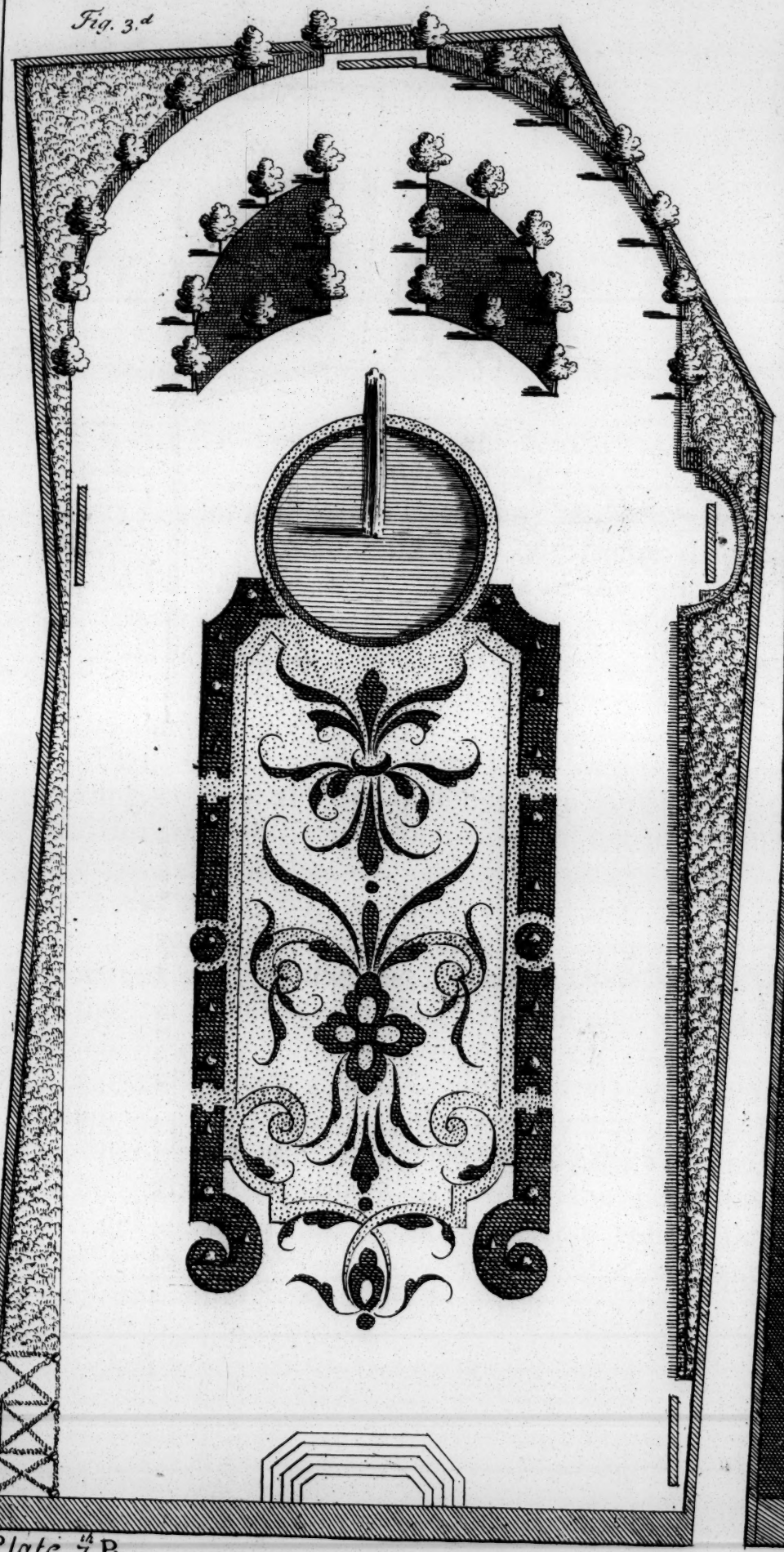
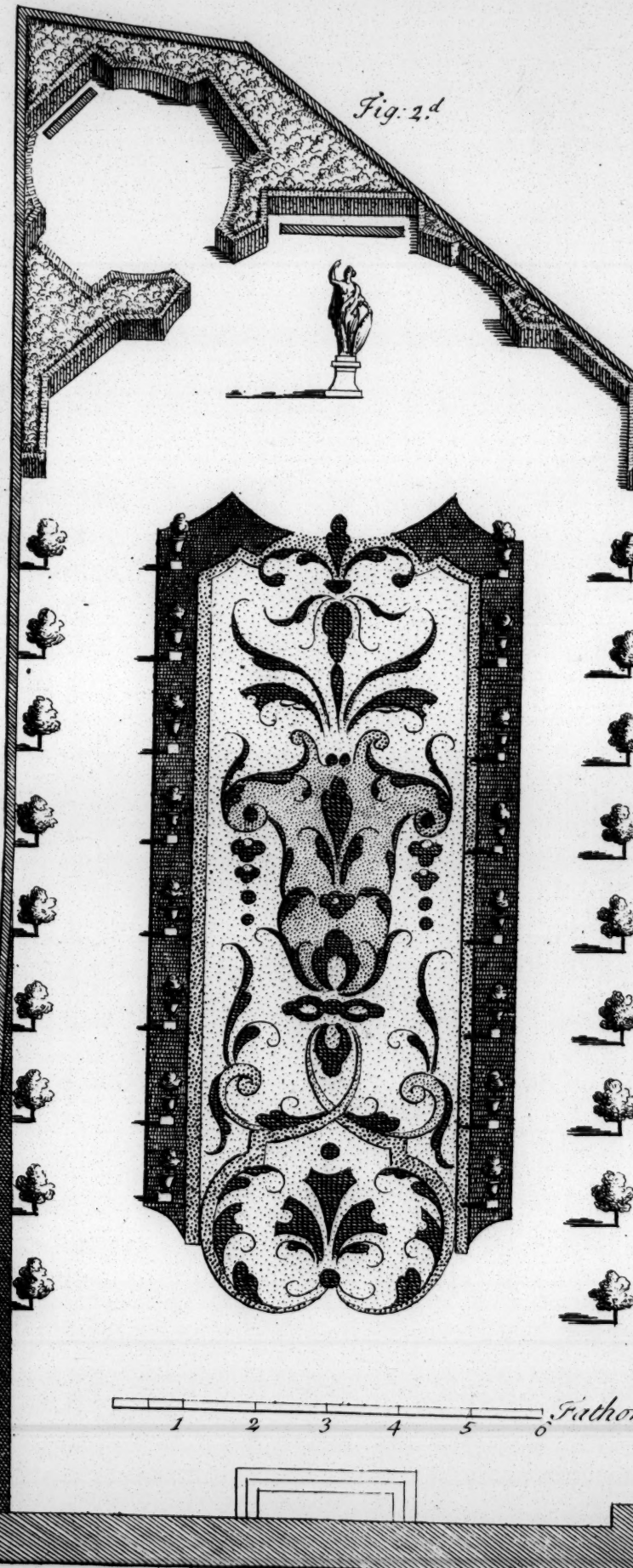


Fig. 2.d

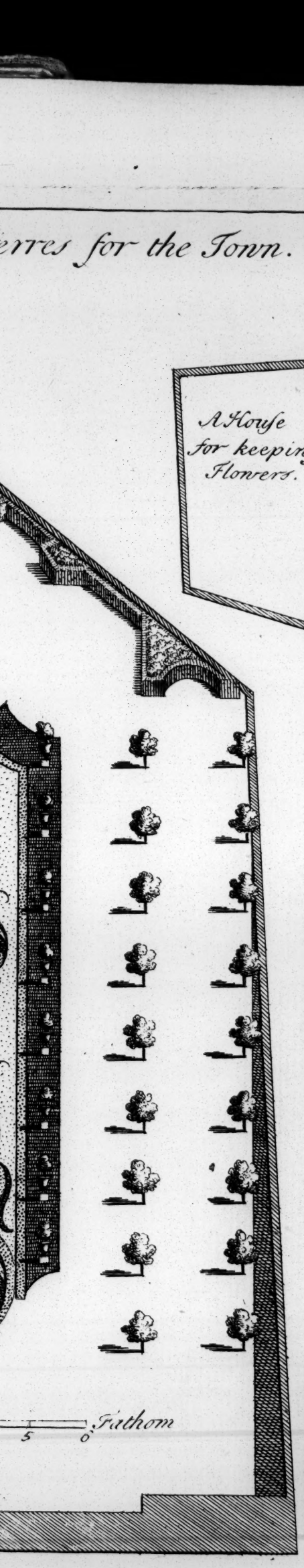


1 2 3 4 5 6 Fathom

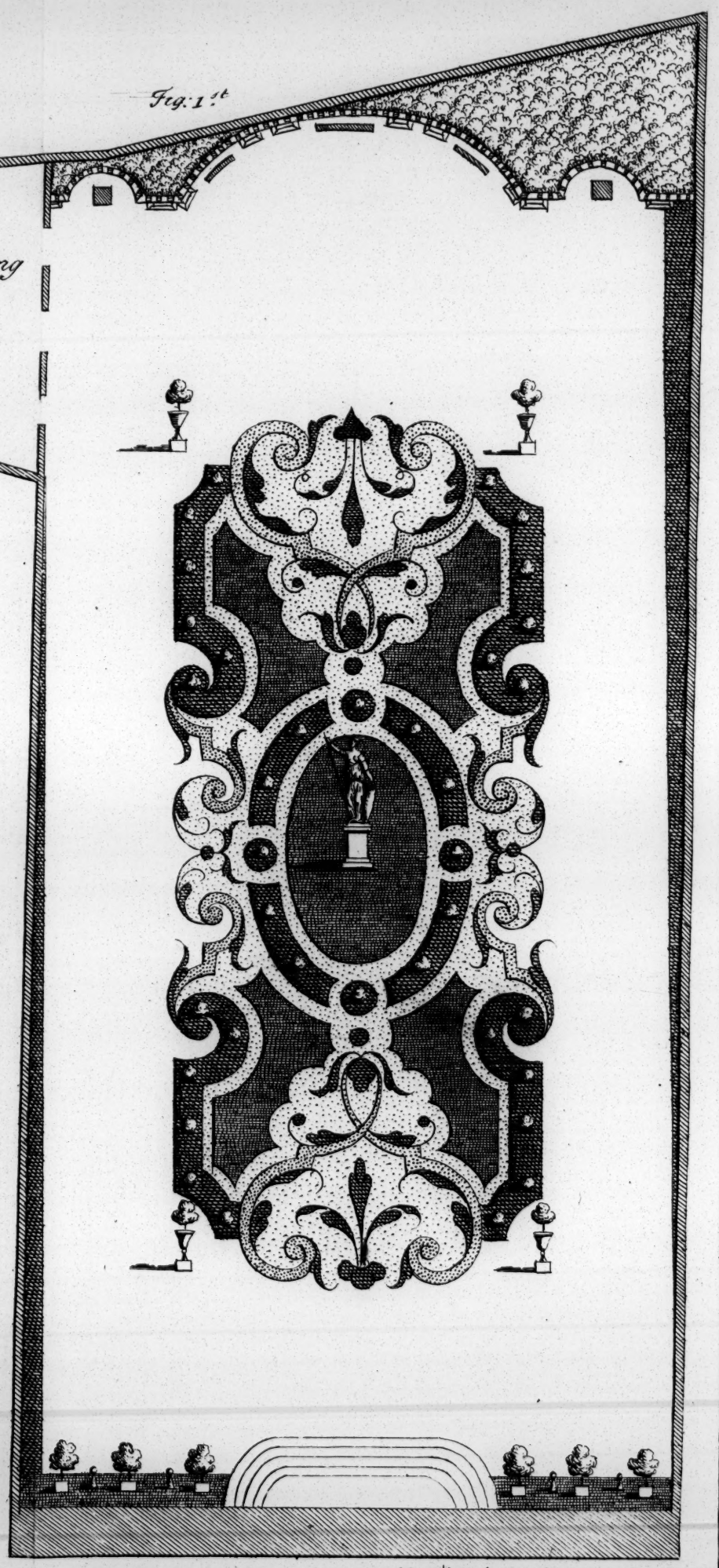
...erres for the Town.

Fig: 1st

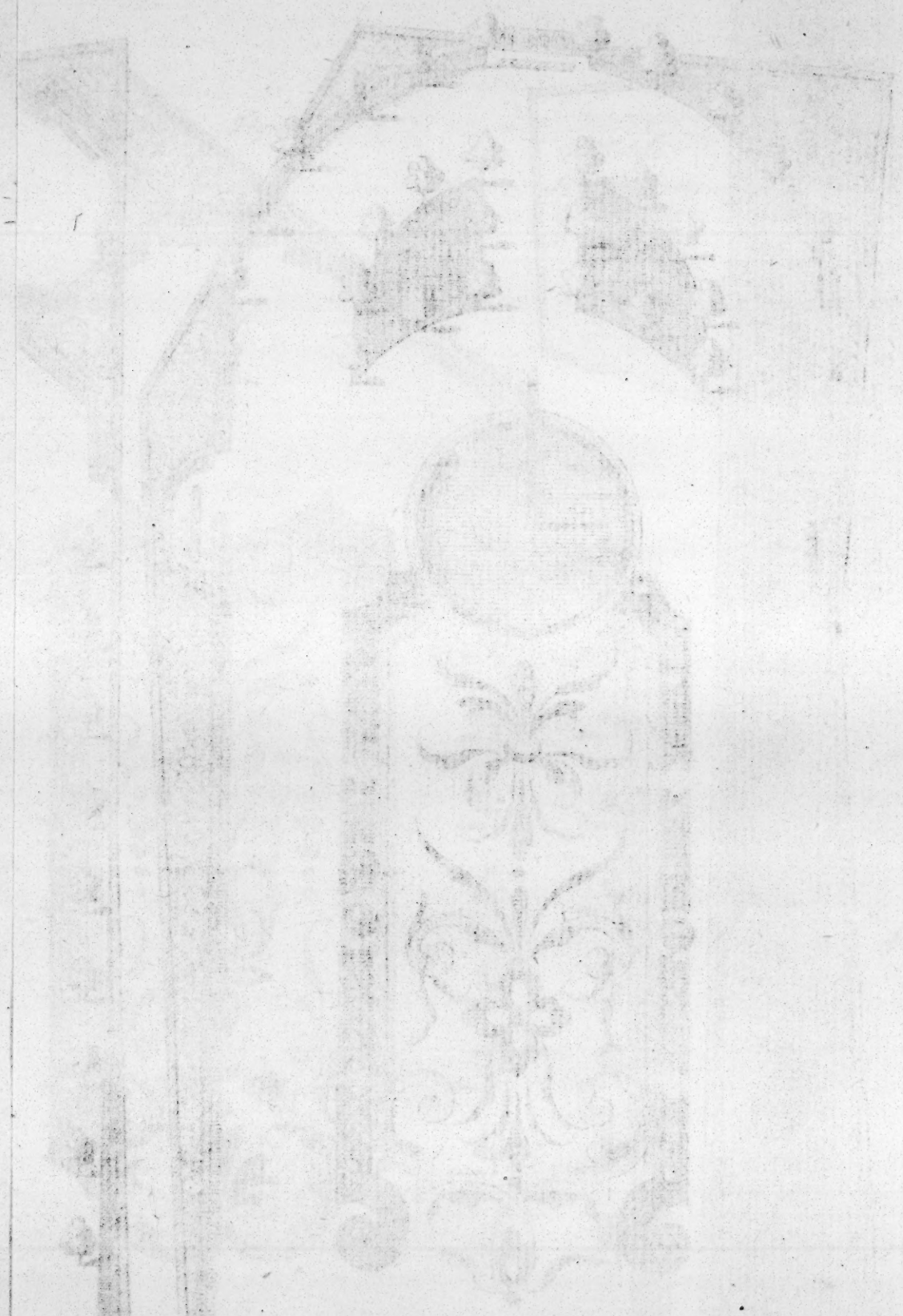
A House for keeping Flowers.



5 6 Fathom



H. Fletcher Sculp.



CHAP. V.

Of Walks, Counter-walks, and Hedges.

WALKS in Gardens, like Streets in a Town, ſerve to communicate between Place and Place, and are as ſo many Guides and Means to conduct us throughout a Garden: Beſides the Agreeableneſs and Convenience they conſtantly afford in Walking, they make one of the principal Beauties of Gardens, when they are well executed and well kept.

AMONG the ſeveral Sorts of Walks, I ſhall take notice of the Cloſe and the Open, the Single and the Double, the White and the Green.

THE Cloſe are thoſe formed by Trees or Hedges, which joining together at Top, ſhut out even the Sight of the Sky, and by their Obſcurity give a Coolneſs not penetrable by the greateſt Heat of the Sun.

THE Walks you would have cloſe or covered, ſhould be made narrower than others, that the Trees may the ſooner meet and join together over head. Theſe Walks are very delightful in hot Weather, when you may walk under the Shade of them in the very middle of the Day.

OPEN Walks may be diſtinguiſhed into two Kinds; namely, the Alleys of Parterres, Bowling-greens, Kitchen-gardens, *&c.* which are formed only by the Yews and Dwarfs of the Borders; and the Walks, which tho' planted with high Hedges and tall Trees, are however kept open at Top, either by clipping the Hedges to a certain Height, or by trimming the Trees on both Sides, ſo that you may breathe the pure Air.

'TIS a general Rule to keep open the principal Walks, ſuch as thoſe that face a Building, Pavilion, Caſcade, or the like; and theſe likewiſe ſhould be kept wider than the others, that from the End of the Walk you may ſee Part of the Front of a Houſe, or ſome other handſome Object; for there is nothing ſo diſagreeable in a Walk, as when from the End of it, you can ſcarce ſee the Door of the Veſtibule of a Building. There is no need to let any be covered but the Counter-walks, for forming, as it were, two green Arbors; and Alleys in Places of leſs Conſequence, where there is no valuable Proſpect.

The great Walk of the Tuilleries *is ſo cloſe, that you can ſcarce ſee the Door of the great Pavilion from the End of it, which is a very great Fault, and is occaſioned by the ill Planting of the Horſe-Cheſnuts.*

SINGLE Walks are thoſe that conſiſt but of two Rows of Trees or Hedges, to diſtinguiſh them from double Walks that have four, which form three Walks cloſe together; a large one in the Middle, and two on the Sides that accompany it, and are called Counter-walks. The two middle Rows ſhould be planted with * Trees detached, that is to ſay, not ſhut up with a Hedge, but free, that you may go round them; and the two other Rows ſhould be filled up and bounded with Hedges. As double Walks are the moſt eſteemed, ſo they are generally made to poſſeſs the fineſt Parts of a Garden.

* Arbres iſolés.

WE put no Yews or other Things between the Trees of double Walks that ſtand detached, for they in ſome meaſure hinder the freedom of the Paſſage; it is ſufficient to ſet them between the Trees that are planted upon Terraſſes, becauſe of the good effect they make from below.

WHITE Walks are no other than thoſe that are all ſanded, and kept raked over; whereas the green Walks are almoſt all ſowed with Graſs, except the two raked Paths along the Hedges: theſe ſerve in Places out of the way for the ſaving Expence.

AS to the Names and different Figures of Walks, they may all be included in theſe that follow: The Parallel-walk, the Strait-walk, the Croſs-walk, the Winding or Circular-walk, the Walk returned ſquare, and the Diagonal or Bevel-walk, in reſpect of that at Right Angles.

WALKS may alſo be diſtinguiſh'd into two Sorts, in regard of their Situation; thoſe upon a Level, and thoſe that lie with an eaſy Deſcent. 'Tis very rare that a Walk is perfectly

fectly level, there is generally made a ſmall inſenſible Slope for carrying off the Water; however, there are ſome entirely level, as the Walks of a Mall, and thoſe about a Parterre or Piece of Water.

WALKS upon a gentle Riſing are moſt uſual, and ſhould be made ſo as not to incommode one in walking, by their Aſcent, which ſhould be ſcarce perceivable; for when they are too ſteep, they offend the Eye, and are very tireſome to the Foot: Their Riſe ſhould ſeldom or never exceed three Inches in a Fathom, leſt the Walk be ſpoiled by the Torrents of Water. This is the beſt Rule you can follow to make them well; but when the Ground will not admit of it, and you are obliged to a much quicker Fall, as in a Walk that leads down by the Side of a Caſcade; you may then help this great Steepneſs by certain Reſts and Steps of Graſs laid in * *Zic-Zac*, and called by the *French*, *Chevrons*, which croſs the Walk obliquely from Side to Side; or elſe, by ſmall Stops made of Ship-plank, which riſing about two Inches above the Walk, check the Water, and turn it off upon the Sides, by which means the Walk may be kept neat, and in good Order.

As one ſees at the great Caſcade at Sceaux.

FOR draining the Ground, you ſhould obſerve to keep the middle Part of a Walk ſomething the higheſt, that the Water running off to the Sides, may not have time to ſpoil the Level of the Walk; by this means likewiſe it will become uſeful, and ſerve to water the Hedges, Borders, and Trees upon the Sides. As to Walks that are level, as thoſe of a Mall, or ſuch as are very large, and cannot have their Water thrown off upon the Sides, there is a neceſſity of draining them, by making Sink-wells of Flints and dry Stones in the middle of them.

THE Breadth of Walks ſhould be proportioned to their Length, for in this lies their greateſt Beauty. We have had † Perſons of great Ability in Gardening, who have failed of this juſt Proportion, and given Walks too much Breadth for their Length. One may fall alſo into the contrary Fault, and make them too narrow. If, for Inſtance, a Walk of 600 Foot long were no more than twelve or eighteen Foot wide, it would be very defective, and appear but like a Gut; whereas had it been thirty or ſix and thirty Foot wide, it would

* *The* French *call this an* Allée en Zic-Zac, *for its Likeneſs to a Machine ſo called, which conſiſting of many Pieces, every two croſs one another like an* X, *moving on a Pin at their Center, and at their Extremities faſtened with Points to the Ends of others that meet them, which forming ſeveral Lozenges, are very much extended, or very much contracted at one Motion, like that of the Opening of a Pair of Sciſſars. See the laſt* Plate, *Fig.* 1.

† Le Nôtre. Bouticour.

would have looked very handſome and well-proportioned, ſuppoſing it ſtill to be ſingle: So Walks of 1200 Foot long, ſhould have their Breadth from forty two Foot to forty eight Foot: Thoſe of 1800 Foot long, from fifty four Foot to ſixty Foot; and thoſe of 2400 Foot, or near half a Mile long, from ſixty to ſeventy two Foot. This is very near a juſt Proportion for Walks that are not double; for in ſuch caſe they ſhould have near twice the Breadth here mentioned, including the Counter-walks.

THESE are the Obſervations I thought good to make, in relation to the Breadth of Walks bounded with young Hedges, that by their Height will one day ſtreighten and contract the View, and ſo make the Walk too narrow; or elſe theſe Hedges and Trees on the Sides, coming to ſpread and grow thicker, will in time poſſeſs two Foot of a Side, which is no way then to be prevented, tho' it ſtreighten a Walk very conſiderably. Theſe Remarks, how mean ſoever they appear, ſhould engage the Men of this Profeſſion to conſider what their Walks will be hereafter when they are grown up, rather than what they are at preſent; for an old Plan is very different from a new one; and the Allowance of a little more Breadth at firſt, would prevent all theſe petty Inconveniencies.

YOU are under no Obligation to obſerve theſe Rules in ſuch Places, where the Length of the Walks, prolonged as far as is poſſible, can yet never be too long.

THE moſt uſual Proportion of Double-walks, is to give half the general Breadth to the Middle-walk, and to divide the other half into two for the Counter-walks, which ought to be anſwerable to the great one. For Example, in a Walk of forty eight Foot wide, you ſhould give twenty four Foot to the Middle-walk, and twelve Foot to each Counter-walk: In one of ſeventy two Foot, thirty ſix Foot to the Middle-walk, and eighteen to each Counter-walk; and in one of ninety ſix Foot, forty eight Foot to the Middle-walk, and twenty four Foot to each Counter-walk. If the Ground confines you, you may take off three Foot at moſt from the Breadth of the Counter-walks, now calculated, or in Double-walks, that front a Building, or a Caſcade, keeping the Middle-walk to its juſt Breadth, and narrowing only the Counter-

walks, that the Beauty of the Proſpect may be better diſcovered from the End of the Walk.

I CAN by no means approve of the Double-walks, whoſe Counter-walks varying from this Rule are ſo narrow, that two Perſons can ſcarce go abreaſt in them. For which Cauſe I ſhall add, that there ought to be about three Foot Breadth allowed to a Man, ſo that in ſix Foot two Perſons may walk abreaſt very well; and conſequently, in a Walk of twelve Foot wide, four Perſons may go without juſtling one another.

As the great Walk of Horſe-Cheſnuts of Luxembourg.

AS to the Alleys of Groves that are far diſtant, as upon the Extremity of a Park, or the like, which have no Viſta, nor anſwer any principal Line, it is no way neceſſary to make them ſo wide, being in Places leſs frequented, and more rarely expoſed to ſight.

SOME People pretend, that in a very long Walk, as of 600 or 800 Yards, it ſhould be made ſome Yards wider at one end, to prevent the Effect of the Perſpective, which makes it look conſiderably narrower; but the Eye is ſcarce ſenſible of this upon the Ground.

ONE of the greateſt Charges of a Garden is the Walks, the Graſs continually growing in them; upon which Account the Gardener ſhould take great Care to keep them always clean and free from Weeds. In ſmall Walks they generally uſe an Edging-Iron or Hough; and in our large Walks in *France* they make uſe of a Plough, raking the Ground afterwards very ſmooth, and ſweeping off the Leaves and Dirt, as Occaſion requires. All that needs to be obſerved in this Work, is, to chuſe the moſt proper Time for doing it; not too dry a Seaſon, for then the Ground is ſo hard, that you would only cut off the Tops of the Weeds, and leave the Roots behind, which would ſhoot again with greater Vigour; nor muſt it be too wet, leſt in cutting the Roots you raiſe the Earth or Gravel that is next them, and ſpoil the Walk.

The moſt difficult Weeds to deſtroy with us in France, *are Quich-graſs and Bind-weed, by reaſon of the long Roots they ſhoot into the Earth.*

TO avoid the great Charge of Walks that are very wide, and would take up too much time to hough and rake, we uſually make a Graſs-walk in the middle, and keep it in Order by often mowing.

FOR

FOR what relates to the Manner of ſetting out and leveling Walks, I refer the Reader to the ſecond Chapter of the ſecond Part that follows, where it is amply treated of. And ſo I do for the Method of planting and raiſing the Trees and Hedges of Walks, which is ſhewn in the ſecond and third Chapters of the third Part.

I COME now to ſpeak of the laying of Gravel, and of beating the Walks, which is the ſureſt way to prevent the Growth of Weeds in them, and to hinder the running of Moles, which are ſworn Enemies to Gardens; for which Evil, as alſo for other Inſects and Vermine, you will find a Remedy in the third Part.

THE beſt way to gravel Walks, is to make a Bed of Maſon's Rubble, or Stone-duſt; thus, in the room of the Earth you take out, lay at the Bottom five or ſix Inches Thickneſs of the coarſer Stone or Gallets beaten for a rough Bed, and upon that about two Inches Thickneſs of the fineſt Maſons'-Duſt that has been run through a Screen; let this be beaten three ſeveral times with the Beater, after having been well watered each time, and then ſpread the Gravel upon it, which alſo ſhould be well beaten. When you lay a Bed of Salt-petre over this Maſon's-Duſt, as is done in making a Mall, or Bare to bowl on, it ſhould be beat eight or nine times; and in caſe Maſon's-Duſt cannot be had in the Country, you may take coarſe Gravel and Pebbles, and lay them at Bottom with a Bed of Earth upon them to make a Body, and then throw on the Gravel, beating it as before.

Moſt of their Walks in France *are laid with a Gravel, or Sand, that binds not as ours in* England, *but is looſe, and conſequently will not bear the Roll, as our Walks generally do.*

THIS Way of Graveling and Beating Walks, is very chargeable; and therefore for private Perſons it may ſuffice to beat the Ground well, and then ſpread the Gravel on it, after which the Rain will contribute to finiſh and harden the Walks, which ſhould not have too great a Depth of Gravel, that they be not tireſome, and require ſo long Beating; two Inches Thickneſs is generally enough for the purpoſe.

AS there is no Rubble in theſe Walks, and that the Earth is very near the Gravel, Weeds grow faſter in them than in others: beſides, with much houghing and raking, the Earth mingles with the Sand, and, by this Mixture, all becomes, as it were, pure Earth again.

THERE are two Sorts of Gravel or Sand made uſe of in *France*, River-Sand and Pit-Sand.

RIVER-SAND is by us eſteemed the beſt and moſt beautiful. It ſhould be choſen ſomewhat groſs, not too fine, nor too ſtony; and above all, it ſhould be heavy, that the Wind may not ſo eaſily diſturb it. This we paſs through a Skreen, or coarſe Sieve, to clear it of the large Stones, and to render it the handſomer.

PIT-SAND, ſo called, becauſe it is drawn from Sand or Gravel-pits, is alſo very good for the purpoſe, and is made uſe of in Places remote from Rivers.

WHAT I am going to ſay here, upon the Subject of Hedges, relates not to the manner of Planting them, which I reſerve to be ſpoken of hereafter. All that I ſhall do now, is only to ſay a word of their Beauty, and the different Forms that may be given them.

HEDGES, by the Agreeableneſs of their Verdure, are of the greateſt Service in Gardens, to cover the Walls that incloſe the Ground, to ſhut up and ſtop the Sight in many Places, that the Extent of the Garden be not diſcovered at one View, and to correct and redreſs the Bevelings and Elbows of Walls. They ſerve alſo to incloſe and border the Squares of Wood, to divide them from the other Parts of the Garden, and to prevent their being enter'd but by the Walks made for that purpoſe.

THE moſt uſual Form of Hedges is a great Length and even Height, making, as it were, a Wall or green Tapeſtry; all the Beauty of which conſiſts in being well filled up from the very bottom, of no great Thickneſs, and handſomely clipped on both Sides, as perpendicularly as poſſible; they are uſually cut into Fans, Curtains, and * low Hedges, according to the Nature of the Place.

THOSE we call Fans and Curtains, are no other than great and very tall Hedges, which ſerve to ſtop the View, to ſhut out Places that are diſagreeable, or to hide the Diviſions of a Garden, whence they have their Name; their Height ſhould be two thirds of the Breadth of the Walk. The Hedges that are higher than this Proportion make the Walks look pitiful and diſagreeable to the Eye, which is too much confined by them.

* Banquettes; *The Word is uſed in Gardening to ſignify a low Hedge, but is properly the Cauſey in great Roads, raiſed above the Cartway, for Foot-Paſſengers.*

HOWEVER, if you would raiſe Hedges very high, as fifty or ſixty Foot, you ſhould plant tall Trees in the Line of the Hedge itſelf, and keep them clipped perpendicularly forwards and backwards, ſo that the Hedge may fill up to about twenty Foot, and the Trees make good the reſt. And as it would be difficult to cut the Tops of theſe high Trees, they may be left with their Tufts, which have no ill Effect. It happens ſometimes that theſe Hedges are unfurniſhed at foot, which is remedied by filling up the lower part with Box or Yew, ſupported by a ſmall Treillis of five or ſix Foot high, as may be ſeen in many * Gardens.

* Verſailles, Marly, St. Cloud, *&c.*

AS for the Banquettes, they are low Hedges breaſt-high, ſeldom exceeding three or four Foot; they ſerve on the Sides of double Walks, where, being alſo kept under, they are no hindrance to the enjoying a pleaſant View between the Trees: they become diſagreeable when they are ſo low as two Foot and a half, and at four Foot they are too high; their true meaſure is three Foot and a half. There are ſome of theſe Hedges adorned at certain Spaces with ſmall Balls riſing out of the Hedge itſelf, to keep place with the Trees that are planted in the others: theſe Sorts of Hedges with Balls, are ſet in places where one cannot plant large Trees, and where there muſt be ſcarcely any thing to accompany them becauſe of the View.

YOU may likewiſe at proper Diſtances make Niches and Sinkings in the Hedges for placing of Seats, Figures, Vaſes, and Fountains, as in Groves and at the ends of Walks, which is the greateſt good of Hedges; for then their Verdure ſerving as a Ground to theſe Figures, Fountains, *&c.* infinitely enhances their Beauty, by making them look detached, and mightily improves their Worth by the Oppoſition it produces: but in ſuch particular Places, as the Cloiſters, Galleries, and Halls, which are made in the Squares of Wood, Hedges are uſually cut into Arches and Porticos of different Forms, and theſe make even a better effect than the others. Theſe are all the Forms of Hedges that are moſt Beautiful, and of the greateſt Variety I could think of, without running from a good Taſte, and into an impoſſibility of Execution. I was not willing to run the hazard of offering any Pieces of Invention only, leſt they ſhould appear too extraordinary to ſome

People, and even impoſſible; but choſe rather to collect Examples already executed in the Royal Gardens, and thoſe of the greateſt Reputation, which are inſerted in a particular Plate, and expreſly named, that they who pleaſe may go and ſee them upon the Spot, for the Cure of their Incredulity, and for forming a Judgment of their beautiful Execution.

THIS Plate contains ſix Examples; the firſt of which is after the *Italian* Manner: The Hedge is clipped above and below, and the Bodies of the Trees left naked to a convenient height; this may be made uſe of to Border a Walk, or when one would enjoy the Proſpect over the Wood; the under part may be planted in Quincunce, as it is here made. Theſe Sorts of Paliſades are very common in the Gardens of *Italy*.

THE ſecond Figure ſhews the arched Hedges at *Liancour*, of which there is a great number, yet almoſt all alike; they ſurround, in this manner, a Canal, and make an admirable effect by the Reflection of the Arches and * Peers in the Water: They are planted with Lime-trees, the Bodies of which are naked about eight Foot high. The Height of the Arches is about fifteen Foot, beſides the Border of two or three Foot height, which runs over them, which makes the whole about ſeventeen or eighteen Foot. Theſe Arcades ought to be kept thin, not to exceed two Foot at moſt, and ſhould be regularly clipped before and behind.

* Trumeau, i. e. *the Space between the Arches.*

THE Hedges in the third Figure are thoſe of the Garden at *Chantilly*, which incloſe a large green Cloiſter; the Peers are filled to the Ground, and the Arches are not carried to the bottom, but have a low Hedge or Banquette under them. Openings are made againſt the Lines of the Walks, and over each Peer riſes a large Tree, either Lime or Elm, of which there is a little of the Stem ſhewn, the reſt is kept in a large irregular Ball, that is, they cut off thoſe Branches only that ſhoot out too far.

THE fourth Figure is of the *Trianon*. The Deſign of theſe Arcades are very ingenious, there being an arched Head of Green over every Opening above the Peers, like that of an Architrave in Architecture; between every two of theſe Arches riſes the Head of a pretty large Tree, as a Lime or Horſe-Cheſnut, which are kept in large Balls. The Peers of theſe are made larger than thoſe of other Hedges, be-

cauſe of the Heads of the Trees which are diſpoſed between the Arches; there is alſo a low Hedge upon which all the Arches are ſet, except againſt the Lines of the Walks, where they are opened in the manner of Door-ways.

IN the fifth Figure you have another kind of Arches, which come quite to the bottom, that is, all opened into Porticos; the Peers are no more than two Foot wide, and are formed into Pilaſters by a little Plinth at bottom, and by an Impoſt at top for the Arch to ſpring from. There is alſo a Key cut over every Arcade, and a ſmall Ball regularly clipped over every Peer. The Plinths, Impoſts, and Keys advance about two Inches before the reſt: This Hedge, tho' it ſtands detached, is accompanied with a large green Curtain, which ſerves for a Ground to it, different from thoſe above mentioned, which are open to the Sky.

LASTLY, the ſixth Figure repreſents the Hedge of one of the Groves at *Verſailles*, called the Water-theatre; it has ſome likeneſs to that of *Liancour*, the Peers being naked to a certain height, and the Arches formed in the ſame manner, except that this has Vaſes brought up over every Peer, which enriches it very much: It is raiſed upon a Bank of Graſs, circular in the middle, and has for its Ground, as the foregoing, a great green Curtain; the whole is planted in Hornbeam: The Royal Magnificence ſhines here in the Baſons and Water-Spouts made between every Arcade; this gives an infinite Luſtre to the fine Verdure, but it is put here rather for the reſemblance it has to the Place, than for a Precedent to be followed by any private Perſon.

TO give theſe Arcades a juſt Proportion, their Height ſhould be twice their Breadth, and for greater Beauty, may be twice and a half; the more they are raiſed, the better they look: They do very well at fifteen Foot in height upon ſix or ſeven in breadth; there ſhould be raiſed over them a Cornice, or flat Border of two or three Foot high, and the Peers ſhould have three or four Foot in breadth, more or leſs, according to the Deſign, which ſhould alſo regulate the Form and Proportion of the Balls clipped into the Shape of Vaſes; if there be any advanced part, as a Plinth, Key, or the like, it ought to be no more than two or three Inches.

THESE

THESE Decorations in Green compoſe a kind of Order of Field-Architecture, as we call that of a Grotto or a Caſcade the Ruſtick Order: there is no difficulty in making them; as will be better underſtood, when I come to ſpeak hereafter of the manner of planting them; but it requires Application and Induſtry to conduct and raiſe them ſo as to take a proper Form for this work; and it is in this we may ſafely affirm, that Art ſurpaſſes Nature, which is here bent and ſubjected to the Genius of the Gardener. The Intention of him that gives the Deſign ſhould always be followed in theſe Works, who determines them to certain Figures that are not gained but with time. It is certain theſe Pieces have ſomething very ſurpriſing in them, and an Air of Magnificence that very much diſtinguiſhes a Garden; they are moſt proper indeed for great Gardens, where the conformity of the Hedges tires the Sight, unleſs relieved by theſe extraordinary Verdures, which are the fewer in number on account of the continual Charge they require, as well of Wood and Wire for the conſtant Repair of their Frames, as in their Clipping four times a Year, contrary to other Hedges, which are done but once or twice a Year at moſt.

THIS is what may be done agreeable to the beſt Taſte in the matter of Hedges, and is at the ſame time the richeſt and moſt diſtinguiſhed in the whole Buſineſs of Gardening. Heretofore they gave them a thouſand extravagant Forms, which are yet much in uſe in the Gardens of * *Italy* and † *Spain*; ſome ſhaped out Men on horſe-back, Boars, Stags, Dogs; in ſhort, an intire Hunting-piece. Others cut them into Pyramids, Obelisks, Balls, and Scrolls; Inſtances of which are to be ſeen in ſome old Gardens about *Paris*. This Practice ſtill continues in || *Holland* and ‡ *Flanders*, where theſe whimſical Deſigns are more in vogue than in any other Country. And this particular Taſte prevails not only in their Hedges, but their Groves, Parterres, Fountains, and other parts of their Gardens have a great deal of it. The **Engliſh* and † *Swedes* fall more into our manner of Gardening; having had Deſigns ſent over to them from hence, which are well enough performed; and have alſo had *French* Architects and Gardeners in their Country, who have left their Productions behind them. In || *Germany* we find Trees cut and

* Fraſcati, Tivoli.
† Aranjues, Buen Retiro.
|| Loo, Honſlardick, Soesdyck.
‡ Enguien, Bruſſels.
* St. James's, Hampton-Court.
† Yacobdal, Droinholm.
|| Strasbourg, Saverne.

and kept in a very ingenious manner; they make Halls lifted up about ſeven or eight Foot from the Ground, which the Tree itſelf covers at Top and upon the Sides, having Arches cut through round about. The Bottom is floored with Timber, and ſupported by Pillars of Wood or Stone, having Stairs to go up to it. The Body of the Tree covers the Whole, and terminates above in Pyramids, and Balls of different kinds. The reſt of their Gardens is very ordinary. At preſent no body gives into theſe Trifles in *France*, how well ſoever they may be kept; there being always ſome Objection or other to be made to them. They chuſe rather a plain Regularity leſs clutter'd and confus'd, which indeed looks much more noble and great.

CHAP.

The Hedges in Arcade at Liancour.

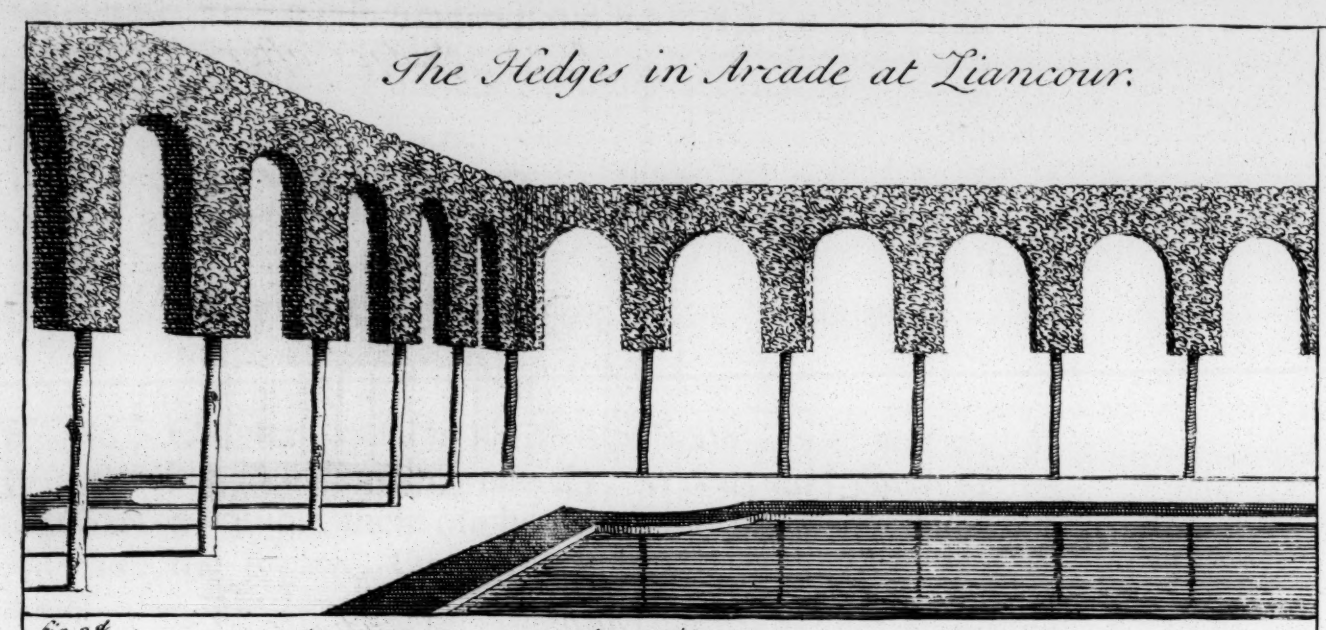


fig. 2.d

The Hedge of the Trianon.

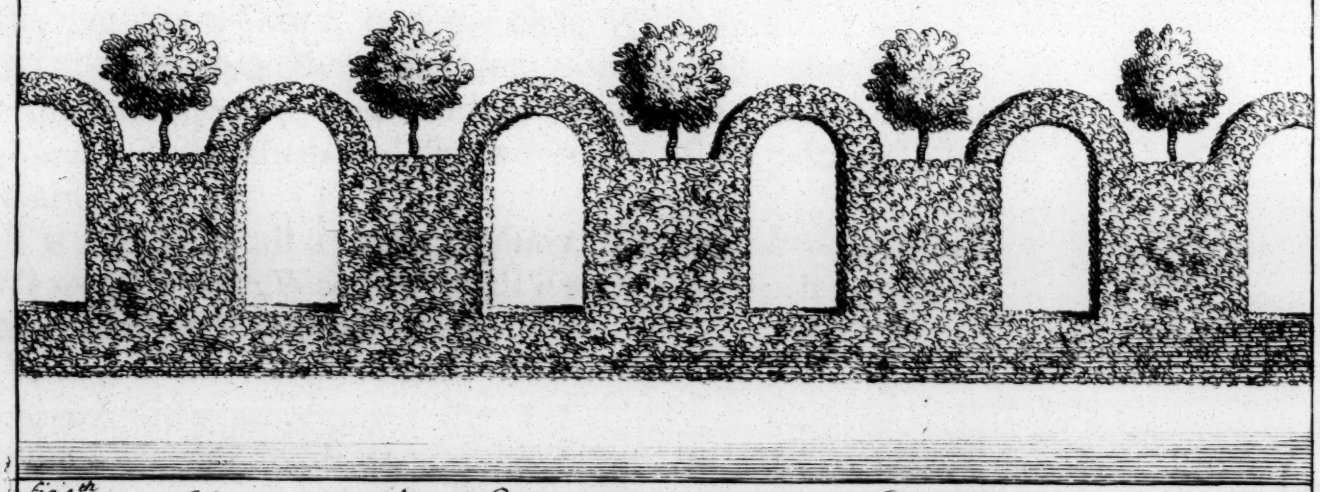


fig. 4.th The Hedge of the Water-Theatre at Verſailles.

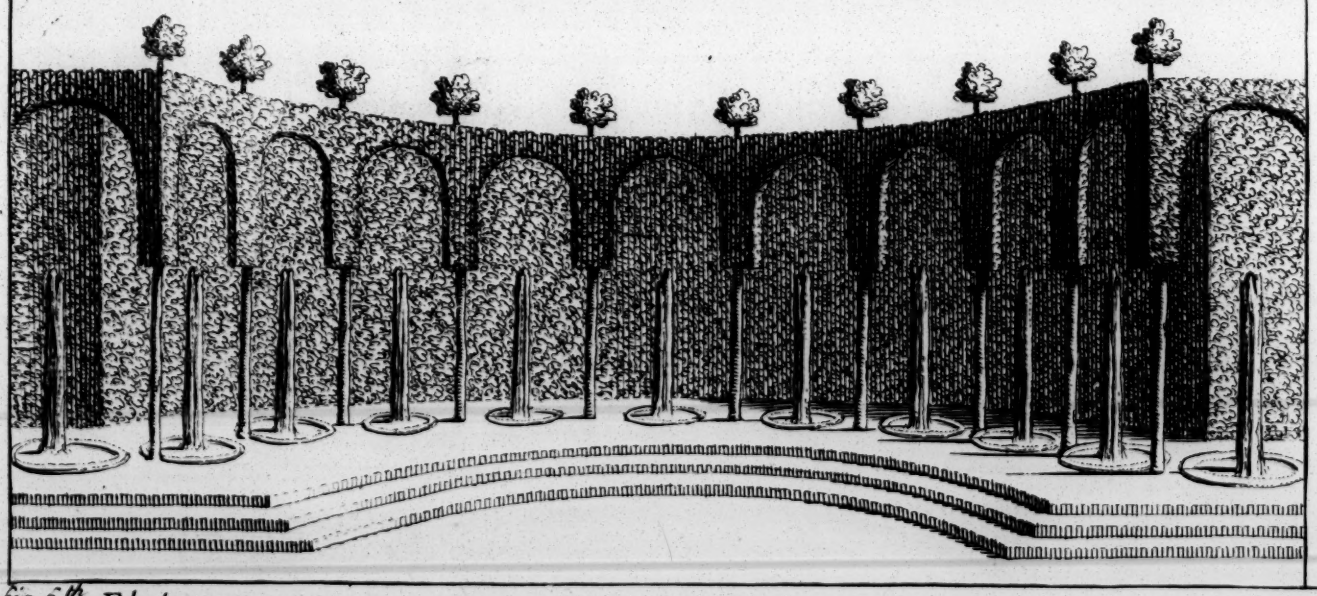


fig. 6.th Plate ** *

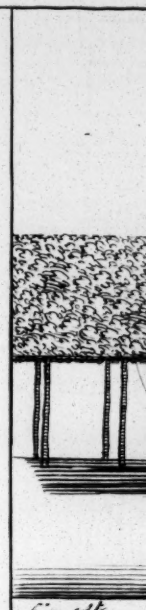


fig. 1.st



fig. 3.d

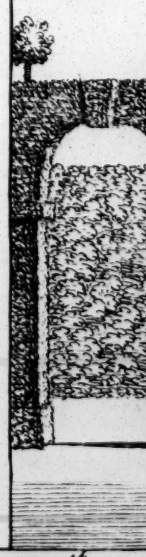


fig. 5.th

Hedges after the Italian manner.

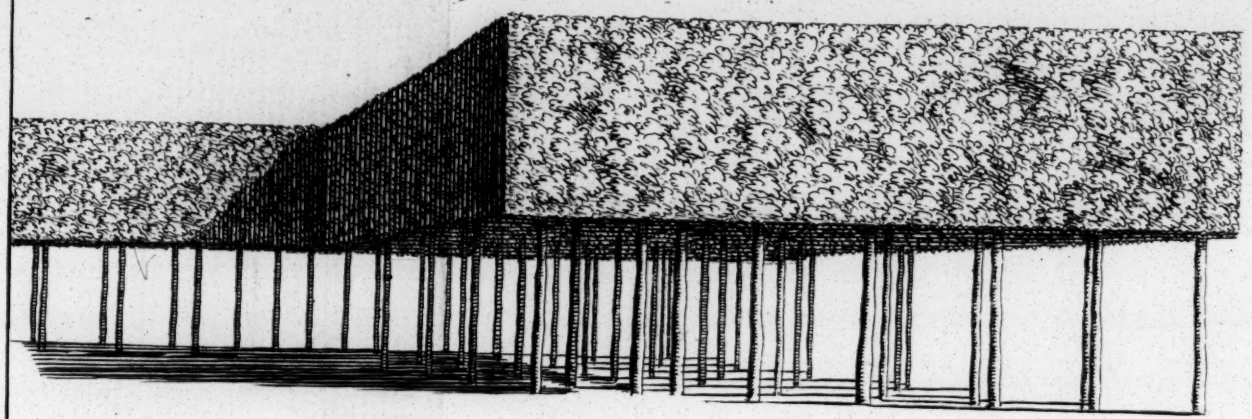


fig. 1.st *The Hedge at Chantilly.*

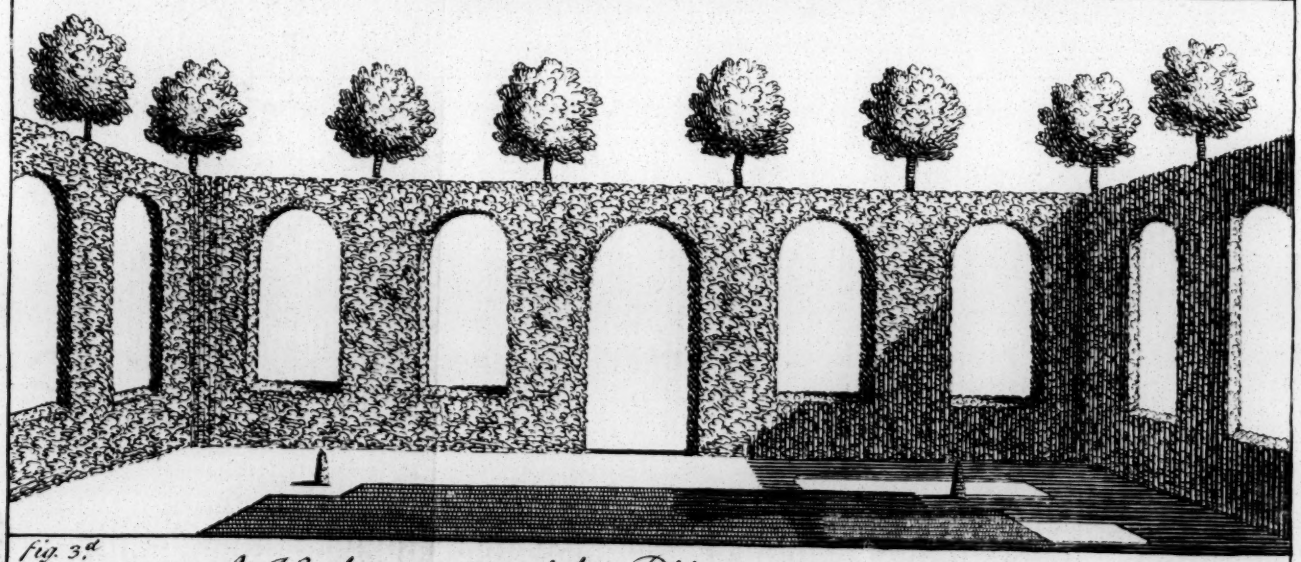


fig. 3.d *A Hedge cut with Pilasters.*

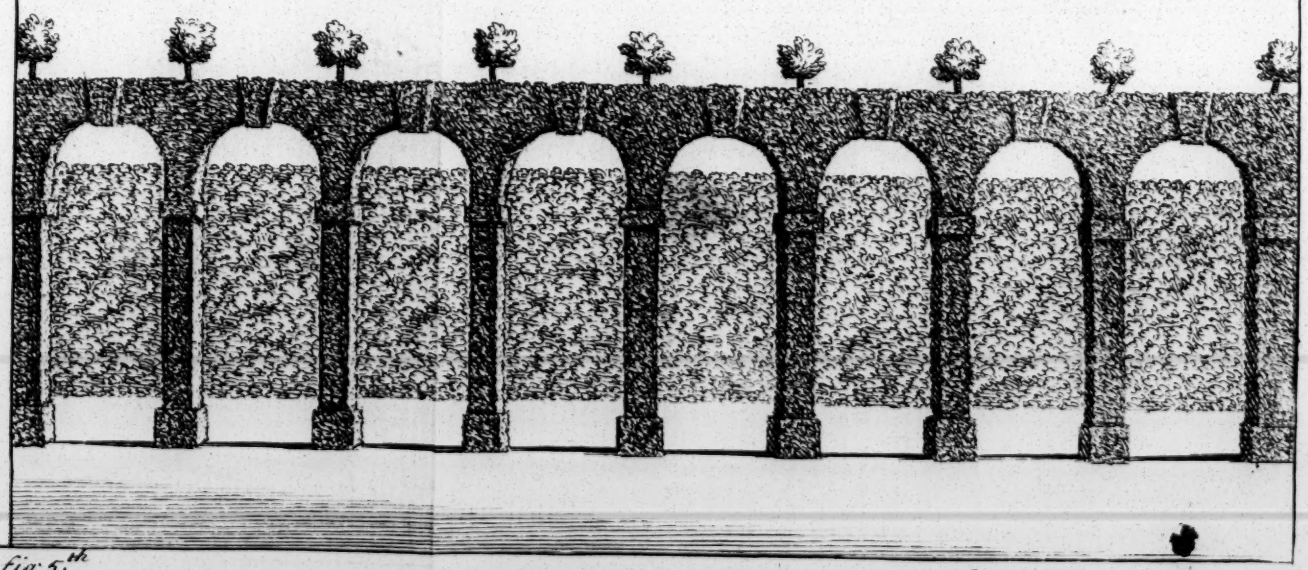


fig. 5.th

H. Fletcher Sculp.

CHAP. VI.

Of Woods and Groves in general.

THIS Chapter contains all that is moſt noble and agreeable in a Garden, namely, Woods and Groves; for no Garden without theſe can be accounted handſome, ſince they make the greateſt Ornament thereof. Woods, in the Summer-time, are the greateſt Relief againſt the violent Heats of the Sun; and the cloſe Parts of them afford a Shade to walk under, even at Mid-day. In large Gardens we always meet with many of them; and there is ſcarce any Garden ſo little, but has a Grove, or ſome cloſe Walk in it.

SINCE it may then be taken for granted, that Woods are the eſſential Part of a Garden, 'tis certain, that a Country-Seat without them is defective in one of its principal Particulars.

THE *French* call a Grove *Boſquet*, from the *Italian* Word *Boſquetto*, a little Wood of ſmall Extent; as much as to ſay, a Noſegay, or Bunch of Green.

WOODS and Groves make the *Relievo* of Gardens, and ſerve infinitely to improve the flat Parts, as Parterres and Bowling-greens. Care ſhould be taken to place them ſo, that they may not hinder the Beauty of the Proſpect; for it frequently happens, that one is obliged afterwards to grub them up, or to keep them headed very low, out of the Concern one has for the Loſs of a pleaſant Proſpect; as I have already obſerved, in ſpeaking of the general Diſpoſition of Gardens.

FOR what relates to their Form and Deſign, they may be varied different ways, keeping it as a general Rule, to pierce them with Walks as much as poſſible, not making ſo many Works and Returns in them, as to waſte the whole

Area

Area of the Wood; nor ſo few as to leave great Squares of Wood naked, and without Ornament. Their moſt uſual Forms are the Star, the St. *Andrew*'s Croſs, and the Gooſe-Foot; they nevertheleſs admit of the following Deſigns, as Cloiſters, Labyrinths, Quincunces, Bowling-greens, Halls, Cabinets, Chaplets, Interlacings, Halls for Comedy, Cover'd Halls, Natural and Artificial Arbors, Fountains, Iſles, Caſcades, Water-Galleries, Green-Galleries, *&c.*

YOU ſhould always obſerve to make ſomething Noble in the Middle of a Wood, as a Hall of Horſe-Cheſnuts, a Piece of Water, Caſcade, or the like; and in Places of this Kind, the Walks ſhould be ſomewhat wider than ordinary. If thoſe of other Parts of the Wood have twenty-four Foot in Width, the Middle Walks ſhould have thirty, or ſix and thirty; and when there is a Piece of Water, you ſhould avoid making Double-Walks about it, that the Water may be ſeen the more agreeably, and the Place be render'd more airy and wholeſome.

THERE are Woods of divers Kinds, which may all be reduced to the ſix following: Foreſts, or great Woods of high Trees; Coppice-Woods; Groves of a middle Height, with tall Hedges; Groves opened in Compartiments; Groves planted in Quincunce, or in Squares; and Woods of Ever-Greens.

THE two firſt Kinds, which are Foreſts of tall Trees, and Coppices, are proper only in an open Country, or in a Park of ſix or eight Miles over. Yet, that nothing be omitted, I ſhall ſpeak of theſe, as well as of the other Groves following, which are thoſe which moſt concern our Pleaſure-Gardens.

FORESTS, and great Woods of tall Trees, are ſo called, becauſe of their Height, and conſiderable Extent of Ground. Such we count thoſe that are at leaſt a League, or many * Acres in Compaſs. They conſiſt of great Trees very high, and very cloſe one to another, which form a very thick tufted Head. Theſe Woods have no fine Hedges, nor rolled Walks in them, only Ridings cut for Hunting: They are uſually planted in a Star, with a great Circle in the Middle, where all the Ridings meet. Theſe Woods are wild and rural; as

* *The* French *Acre is* 1800 *Foot long, by* 18 *Foot broad. When they ſpeak of it as a Lineal Meaſure, they mean* 1800 French *Foot, which is equal to about* 1920 *Foot* Engliſh.

as the Foreſt of *S. Germain en Laye*, that of *Fontainebleau*, of *Senlis*, the *Bois de Vincennes*, *de Boulogne*, &c.

COPPICE-WOODS differ nothing from thoſe before mentioned, but in that they are not ſuffer'd to grow ſo high, and are cut down to the Ground every nine Years, upon which account the *French* call them *Bois Taillis*. They divide a hundred Acres of this Wood into nine Parts, one of which is cut down every Year; by which means the Wood is preſerved from Waſte and Ruin, one Side growing up, while the other is cut. By the Statute they are obliged to leave ſixteen Tillers on an Acre, beſides the old Standers left at the other Cuttings, which, in Proceſs of Time, makes a Coppice Wood become a Foreſt.

WOODS of a middle Height with tall Hedges, which the *French* call *Bois Marmanteaux*, or, *de Touche*; and the three other Kinds that follow, are thoſe which are made uſe of in fine Gardens, and are truly the Groves of Delight and Delicacy: They are ſtyled of a middle Height, becauſe the Trees wherewith they are planted, never arrive to the great Height of the Foreſt-Trees, ſcarcely exceeding thirty or forty Foot high. Theſe Woods are adorned with Halls, Cabinets, Galleries, Fountains, *&c.* Their Squares are bordered with Hedges and Lattice-work, and their Alleys are handſomely kept, and well gravel'd, which renders them very neat and curious.

THE Groves that are open, and in Compartiments, which ſome call *Boſquets Parés*, or Embelliſh'd-Groves, differ from other Woods, in that there are no Trees planted in the Middle of their Squares to form any Thicket or Underwood, but they are left open; their Walks are planted with Lime-Trees or Horſe-Cheſnuts, purſuant to the Deſign, and ſet with a low Hedge kept trimm'd to about three Foot, or Breaſt-high, which renders all the lower Part of the Grove free and open, and, in walking, gives you the Advantage of the Proſpect, which can't be had in the common Woods, where the Hedges and Under-wood grow very high. In the Squares of theſe Woods are made Compartiments and Green-plots, with a raked Path of two Foot wide running every where between the Hedges and Graſs-work. They are adorned with Yews and Flowering-Shrubs regularly planted. Deſigns of this Sort

are the moſt beautiful and moſt magnificent that can be, and are a kind of real Parterres, partaking of thoſe after the *Engliſh* Manner, and them of Compartiment, and ſtill retaining ſomething of the Wood. You may make in them Cabinets and Halls, with Lines and Viſtas for Communication between one and the other.

GROVES planted in Quincunce are no other than ſeveral Walks or Rows of tall Trees planted checker-wiſe, or at Right Angles, or elſe in Parallel Lines, without any Underwood or Hedges. They are called Quincunces, becauſe of the Conformity they bear to the Five on the Playing-Cards: Under theſe Trees the Ground is kept raked, rolled, or laid with Turf, leaving only certain white Walks in the Middle, and ſome ſmall * Cabinets and Viſtas, all which being without Hedges, you ſhould have every way a Proſpect of Walks planted exquiſitely ſtrait, and in a Line.

* Cabinets de Jardin *are much the ſame with our Summer-Houſes.*

THE Quincunces we make now-a-days, are very different from thoſe of the Ancients mentioned by *Vitruvius*, that were like the Five of Cards, a Tree being planted in the Middle or Center of the Four; which is now quite out of uſe, becauſe it makes ſome of the Walks narrower than others. They now plant their Quincunces in Lines returned at right Angles, forming a Checker or perfect Square every way, which renders the Walks more regular, and of equal Breadth throughout.

THE ſixth Kind, or the Woods of Ever-Greens, are the fineſt of all, on account of their continual Verdure, as well in Winter as Summer; but are the leaſt made uſe of in Gardens, becauſe the Length of Time required to bring them to Perfection puts People out of Conceit with planting them.

IN the following Deſigns you will find all that can be deſired in the Buſineſs of Wood-work; and I think, I may ſay, this Subject is now ſo exhauſted, that the Contrivance of theſe ten Plates is not to be out-done.

THE firſt Plate contains two Deſigns of Foreſts, cut thro in the beſt and moſt magnificent manner.

THE

THE firſt Figure deſcribes a Wood pierced with a double Star, having a great * Hall in the Middle, adorn'd with a Piece of Water that has three Jets or Spouts, and four other Baſons ſo diſpoſed in the Wood, that the Spouts of them range with thoſe of the great Water-work, which makes a fine Sight, when in Walking you diſcover three Spouts at leaſt in every Alley, in ſome five, and at each End of the Middle-walk you ſee all the ſeven: Beſides which Ornaments, this Wood is pierced to ſuch Advantage, that which way ſoever you turn yourſelf, you have three Walks at leaſt that face you, and form a Gooſe-foot, at the eight Entrances: A little forwarder you find ſmall Croſs-ways with four Alleys; and in the great ones, which are ſet out with Baſons and Yew-Trees, there are ſix Walks that meet in a Center, and compoſe Stars. The eight principal Walks, you may obſerve, are made wider than the others. This ingenious Compoſition renders the Wood as pleaſant as can be, though there he no Cabinets nor Galleries contrived in it, as in the other Deſign by the Side of it.

* Sale de Jardin *is a large Place of a regular Figure, where the* French *banquet and hold their Balls, not incloſed with Walls as our Banquetting-Houſes uſually are, but environed with Greens, and open at Top; and in theſe they often dance by the Light of* Flambeaux.

THE ſecond Figure ſhews another Wood cut into a ſingle Star, with a great Hall likewiſe in the Middle, and a Piece of Water adorned with one large Spout, which is ſeen from eight Walks: Near the Middle of theſe, you find a great Oval-walk, the Circular-walks of which ſtrike into thoſe of the Star, and have their Points cut off, to make eight Croſs-Ways. In walking round this Oval, you find other Walks that lead you into eight Cabinets, or Groves, all different one from another. The firſt Cabinet, beginning below upon the Right Hand, is a great Circle of Horn-beam cut with Niches for Seats and Shrubs; in the Middle is an Octogone ſunk hollow, otherwiſe call'd a Bowling-green. The ſecond going higher, conſiſts of three ſmall Pieces that run one into the other, the middle one of which is an oblong Square ſet out with Yews, and the two at the Ends are of a circular Form, with Benches. The third Cabinet is a little Gallery of Water, compoſed of ſeven Bubbling-Spouts that fall again into a Gutter, or Trench, made in the Middle. The Hedge is border'd with Pedeſtals, Figures, and Yews between them; and at the two Extremities of this Gallery are two Niches with Seats. The fourth is of a ſquare Form, hollow'd on each

Face, with a Graſs-plot in the Middle, and four Yew-Trees at the Corners. The fifth Cabinet in courſe is a Figure in Cants, which form an irregular Octogone, and in the Middle of it is a circular Bowling-green. The ſixth is a Gallery very different from the former, in that it is planted with round headed Trees, and terminated by Oval Baſons with Seats. The ſeventh is very plain, being no more than a long Square hollowed out at the two Ends, with a Graſs-plot, and two large Yews planted in the Centers of the Semi-circles. Laſtly, The eighth Cabinet is of a ſquare Form, the Angles of which are ſtruck off by Cants, and the Middle is filled with a Piece of Graſs chamfered out at the four Corners.

THESE two Woods contain about ſeven Acres each, and are proper only where there is a great deal of Room. Nevertheleſs, their Deſigns may be executed leſſer, or bigger, according to the Place; but the larger they are, the better, becauſe the Walks come not ſo near one another. The Scale which is common to both theſe Deſigns, will inform you of all the Proportions.

THE ſecond Plate contains four Deſigns of Foreſt-Woods, whoſe Form is oblong, and the Extent about ſix Acres. In the three firſt Figures, are Woods proper for a great Line or Viſta, where a large Walk muſt be kept in the Middle, which parts the Deſign in two, and yet does not hinder the Whole from appearing very regular and agreeable.

IN the firſt Figure are ſmall Walks running in ſquare Compartiments, which are terminated by ſix ſeveral Cabinets, adorn'd with Arbors, Green-plots, Seats, and Yew-Trees. In the Middle of the great Walk is deſign'd a Hall in Cants, and a Baſon of Water with one Spout. The greateſt part of this Walk is fill'd with Graſs which is continued round the Baſon. Theſe Sorts of Green-walks are much in uſe at preſent.

This is very proper in ſome Places, as well for Variety, as to ſave the Charge of keeping.

THE Alleys of the ſecond Figure are diſpoſed ſo, that in the Cabinets at the Corners they ſtrike one into the other: But the Hall differs very much from the others, being made with a Sweep in the Middle, which preſents you with a Gooſe-foot on each Side, with four Pedeſtals for Statues or Vaſes. The Walks of theſe Gooſe-feet center every one upon the Spouts of the Baſon, for which Purpoſe there are made

made three of them, which makes the circular Alleys very pleaſant, all theſe Jets being ſeen one after the other, as you walk. The Baſon is of a very particular Deſign, and is ſet in the Middle of that great Walk which is planted with Trees that ſtand ſingle and detached.

THE Compoſition of the third Figure is a great Circle, between which, and the Hall in the Middle, are contrived two Cabinets with Cants, with oval Green-plots; from this great Circular-Walk, you enter, by Alleys that make an Elbow, into the Cabinets that are at the four Corners of the Wood, where you find other Walks that run directly upon the Spout of the Water-work, with Seats juſt over-againſt them, which looks very handſome. From theſe Cabinets and Alleys you paſs into the great Middle-Walk, which is planted likewiſe with Elms cut with round Heads. *As at* Marly.

THE fourth Figure is an entire Deſign, without any Walk through the Middle; it is pierced by Diagonal Walks that form four St. *Andrew*'s Croſſes, in the Center of which are made Croſs-ways and Green-plots. Theſe Walks run into a great Hall, which leads to four ſeveral Cabinets that anſwer one another. Two of theſe Cabinets are Places for Dancing; the others are ſet out with Banks of Graſs, furniſhed with Figures and Flowers above. In this Hall is a Graſs-plot terminated by two Baſons, which is ſomewhat extraordinary; nevertheleſs, it does very well, by reaſon the Diagonal Walks center upon the Spouts of them.

IN the third Plate, you ſee ſix Deſigns of Woods very much diverſified, and fit for ſquare Places of about four Acres Extent.

THE Wood deſcribed in the firſt Figure is enter'd at the Corners, where you find two Walks centering upon circular Croſs-ways, that lead you into a Figure with eight Cants. This Figure is diſpoſed in ſuch manner, that four Corners of it ſtriking into the Croſs-ways, and the other four being taken up by Sinkings with Benches, it prolongs the Walks of the Entrances, ſo that a Perſon ſitting upon one of theſe Benches, ſees two of the Walks that lead from the Corners, beſides that which faces him, and which, with the three Walks that front the other Benches, conduct you into the Middle-part, enriched with an Iſland, and four low Water-Spouts that make

make the Mote about it. In the Middle of this Iſland there is a Statue, and a Bridge ſuppoſed to go over.

THE ſecond Figure is a Wood that has twelve Walks to enter it by, the Square-walks center upon the Middle-part, and the Diagonal-walks lead to circular Graſs-plots, environ'd with a double Hedge that ſtands detached, and is cut through againſt every Line. Theſe Croſs-ways preſent you with Gooſe-feet, from whence you paſs to a great ſquare Figure that forms a * Cloiſter, the Angles of which are taken up with Niches and Benches. The four Middle-Walks lead you to a ſquare Piece of Water, the Corners of which advance like Baſtions. In the Middle riſes a large perpendicular Spout, and in the Corners four other oblique Spouts, that throw their Water arch-wiſe.

* Cloître, *in Gardening, ſignifies a cloſe Walk, generally forming a Square.*

THE Wood ſhewn in the third Figure is the plaineſt of all, and may be executed in the Space of two Acres, or of one, if need be. 'Tis a plain St. *Andrew*'s Croſs, ſurrounded by a great Octogone, from whence, by four Walks, you are carried into a large Circular Hall, adorn'd with a Baſon in Cants, and a Row of Trees and Yews that ſtand detached, with four Niches for Seats.

THE fourth Figure offers a Deſign much fuller of Work, and of an Invention ſomewhat particular. 'Tis a St. *Andrew*'s Croſs likewiſe, that leads you into a great ſquare Figure forming a ſquare Cloiſter; in the Middle of each Walk of it, you find Sinkings in the Shape of a Half-Moon with Baſons, facing which, are Walks that ſtrike into the Middle-Part, as well as thoſe of the Croſs. The Hall in the Middle is of a circular Form, cut by eight Niches for Seats between the Alleys. It is filled with a large octangular Baſon, having in the Middle of it an Iſland, with a Figure ſurrounded with Caſes and Flower-pots. The Water of this Baſon comes from the Waſte of the other four.

THE fifth Figure is not entirely ſquare, as the others, this Deſign appearing moſt graceful when it is oblong, which has obliged me to make, on the Sides of it, Walks, with Graſs-plots of Cut-work. In this Wood are contain'd ſeveral Deſigns, as a great Oval, a Lozenge, and a St. *Andrew*'s Croſs, which all together make a very handſome Compartiment. You find in it two Gooſe-feet, eight Croſs-Alleys,

and two Receſſes, or Sinkings, with Benches. The four Entrances at the Corners, and the two in the Middle, are continu'd to a Circular Hall, ornamented with a Baſon and Niches, for Seats and Shrubs.

IN the ſixth Figure is ſhewn a Wood, the Entrances of which are in the Middle, for Variety. They are interrupted by the four Angles of a great Lozenge, which leads you to Cabinets contriv'd in the four Corners, all differing one from another. There are ſmall triangular Croſs-Ways over-againſt theſe Cabinets, which open the Entrance of a Cloiſter; from which are four Paſſages that admit you into the Hall in the Center, which is in Cants, with an oval Baſon: Fronting theſe four ſhort Alleys, you find Niches with Seats. 'Tis needleſs to explain the four Cabinets at the Corners, becauſe what they contain may be judged of by what has been already ſaid on the Subject of thoſe found in the other Deſigns, which have been particularly and ſufficiently treated of before.

THE fourth Plate is the fulleſt of all, containing ten different Groves; the four firſt Figures are fit for Places that are oblong, and about an Acre and a half, or two Acres Extent; the ſix others following, ſhew what may be done in long Slips of Ground, and the narrow Guts of a Garden. Theſe Woods are much varied, and though plain, are nevertheleſs handſomely cut, and well wrought. You may judge ſufficiently of what they contain, by inſpecting them, and applying to the Scale.

THE firſt and fifth Figures of this fourth Plate are ſuppoſed to be in bevel Places on purpoſe to ſhew how they may be regulated and brought into agreeable Deſigns. You take in the firſt place, the Middle of each Line which bounds the Ground for making the Middle-Walks, whether lengthwiſe or breadthwiſe, and then draw the Diagonals from Corner to Corner, to determine the Center of the Hall, which muſt be ſo ſuited to the Ground, that it be well cover'd with Wood all round: The reſt of the Deſign ſhould be accommodated to the Place either by Croſs-ways, Gooſe-feet, Entries, or other Walks. You need be under no concern if the Squares of Wood fall out to be of different Size and Shape; you ſee that only upon Paper, thoſe things never ſhewing themſelves

upon

upon the Ground. All Deſigns do not ſuit the ſame Beveling, the Choice of this muſt be left to Experience and a good Taſte. The ſecond, third, and fourth Figures, for Example, would not do ſo well in this caſe, as the firſt, by reaſon the ſquare Returning-Walks that form the Cloiſter would look prepoſterous in ſo ſenſible a Sloping as this. The narrow Gut in the fifth Figure, puts you to no Inconvenience by its beveling; you take only the Middle of its two Extremities for the Middle-Walk, and this Deſign, which we call a Chaplet, ſuits as well here as in the moſt regular Place.

THE two following Plates, which are the fifth and ſixth, contain Cabinets and Salons fit to be placed in Woods, in caſe the Deſigns of thoſe already given ſhould not ſuit the Places you have for them, or ſhould not be liked ſo well; you may then make Choice of any of the twelve Figures that are in theſe. I have cauſed theſe Salons to be engraved the larger, that you might be able to plant after theſe Deſigns, without being obliged to draw them over a ſecond time.

This Grove contains but one Acre at moſt.

THE ſeventh Plate preſents a Grove of a different Nature from the foregoing, and is that we call an open Grove in Compartiment. This Plate contains but one ſingle Deſign, that, being the larger, you might better judge of its Diſpoſition. This Grove is croſſed by two Walks, which center upon a Baſon that forms an irregular Octogone, and is environ'd with an oval Hall, which is cut in its four Middle Lines by Walks, that lead to little Cabinets and Viſtas contriv'd in the Squares of this Wood; whence from Seats conveniently placed, you diſcover the middle Water-ſpout. The Spaces between theſe Cabinets are poſſeſſed by Graſs-plots caſt into Scrolls and Circles, adorn'd with Yews regularly diſpoſed. The Hedges of this Grove ſhould be kept no more than Breaſt-high, that all the Pieces of the Compartiment may be ſeen over them.

ONE Quarter of this Deſign is marked with a ſingle Line only for the Hedge, and with a Cypher for the Place of the Trees, that it might be put in Execution with leſs Trouble, than could be done, if the Trees and Hedges were raiſed in Perſpective, as they are in the reſt of the Deſign.

IN

IN the eighth Plate you have four diſtinct Pieces, that may be made uſe of in the middle of a Wood, in caſe you ſhould not like the foregoing Deſigns ſo well. Theſe are Halls planted with Trees that ſtand detach'd, with Yews between them. *As in the Gardens of the* Trianon.

THE Hall in the firſt Figure is the moſt magnificent. It is ſuppoſed to ſtand in the middle of a great Wood, and to have but two Entrances; however, if the Place require it, you may make four, taking away the Cabinets at the two Ends, which will not in the leaſt impair its Beauty. It contains about an Acre and a half, but may be executed in half that Ground, upon occaſion. It is ornamented with four Baſons in a Line one with another, having Benches ſet ſo as to face each Walk, and to range with the Jets of the Baſons. The middle Piece is a large Green-plot, whoſe Angles being canted off, make four Octogones at the Corners of the Hall, which are completed by the Hedge. The reſt is ſufficiently explain'd by the Deſign itſelf.

THE ſecond Figure is likewiſe a great Hall differing from the other, in that it is ſituated in a great Piece of Turf, tho' it may alſo be ſet in the middle of a Wood. This Hall is a long Square, with a Sweep at the Ends, where are made two octangular Baſons; in the Center of which the diagonal Entrances of the Hall meet, and are terminated. There are Figures placed at the Ends, and two Seats at each Corner of the Hall, which is border'd only with Graſs-work and Trees, without any Hedge or Path behind.

THE third Figure is a little Hall very plain, ſurrounded with a Paliſade breaſt-high, with Trees planted in it at proper Diſtances. It is placed as the other was, in a piece of Graſs, which is divided from the Paliſade by a raked Walk. In the middle is a Statue, which anſwers the Line of the Walks and Benches.

IN the fourth Figure you have a Wood planted in Quincunce, with a Hall and Cabinets that make a Compartiment, which will appear a very new Contrivance; Deſigns of this ſort uſually conſiſting of great Parallel-walks only, planted checker-wiſe, without any other Ornament. Tho' there be contrived a Hall in the middle of this, with a Baſon and Cabinets that form a Cloiſter, and ſtrike one into *As the Quincunces of the* Tuilleries.

another, it nevertheleſs deſtroys nothing of the Quincunce, nor does it interrupt the Lines of Trees, of which ſome few only are taken away in the Middle, and at the Corners, to form the Hall and Cabinets. The Under-part of this Quincunce is laid with Turf in ſome Places, which makes a Diſtinction, and ſets off the gravel'd Parts of the Walks and Hall.

The Cloiſter of Meudon *is a fine Example of this Kind.*

THE ninth Plate gives you the Idea of four Pieces of Garden-work very extraordinary, and yet very magnificent in their Kind, which are thoſe we call Cloiſters.

THE firſt Figure is the plaineſt of all, and is a great ſquare Graſs-plot, with a Statue in the middle of it, ſurrounded with a double Walk of Horn-beam, open'd againſt the Lines of the other Walks, and againſt the Seats. This Cloiſter is in the midſt of a Wood, and you come to it by four diagonal Walks, that lead to Croſs-Ways, adorned with Green-plots.

THE ſecond Figure repreſents a Cloiſter of a circular Form, ſituated in a Wood, having an eight-corner'd Baſon, ſurrounded with Arbors made of the Trees plaſhed one over the other. The four Walks that lead to it, are likewiſe cloſe Arbors; and on each ſide is a ſmall raked Path that forms the Counter-walk, and parts the Arbors from the Hedge of the Wood.

IN the third Figure you ſee a very magnificent Cloiſter, differing from the others, in that 'tis ſet in the middle of a Graſs-plot, though it may alſo be placed in a Wood. 'Tis a large Octogone of an oblong Figure, cover'd with Arbors of Lattice-work, having four Cabinets that face the Walks which lead to it. The middle of this Cloiſter is ſunk below the reſt, and you go down to it by three Courſes of Steps of Maſonry, or Graſs, if you pleaſe. The bottom of it is beautified with a Graſs-plot, and four ſmall Fountains in Buffets, made upon * the Steps fronting each Walk.

THE fourth Figure is a † Cloiſter-Gallery, formed by a Hedge cut with Arches, or with Elms in Balls, with Horn-beam at the foot, clipt into the Shape of Cheſts; which imitate the Orange-tree. The Benches are ſet ſo as to continue the View acroſs the Arcades and Balls. In the middle of this Cloiſter is a Compartiment after the *Engliſh* Manner, edg'd with a Border of Cut-work, and ſet out with Shrubs and ‖ Flowers,

* *Fr.* Gradins, *which in Gardening are a kind of Counter-Terraſſes raiſed like Steps, for ſetting of Caſes, Vaſes, and Flower-pots thereon, to terminate a Walk; and are made of Graſs, or Slabs of Maſonry, either ſtrait or circular, as an Amphitheatre.*

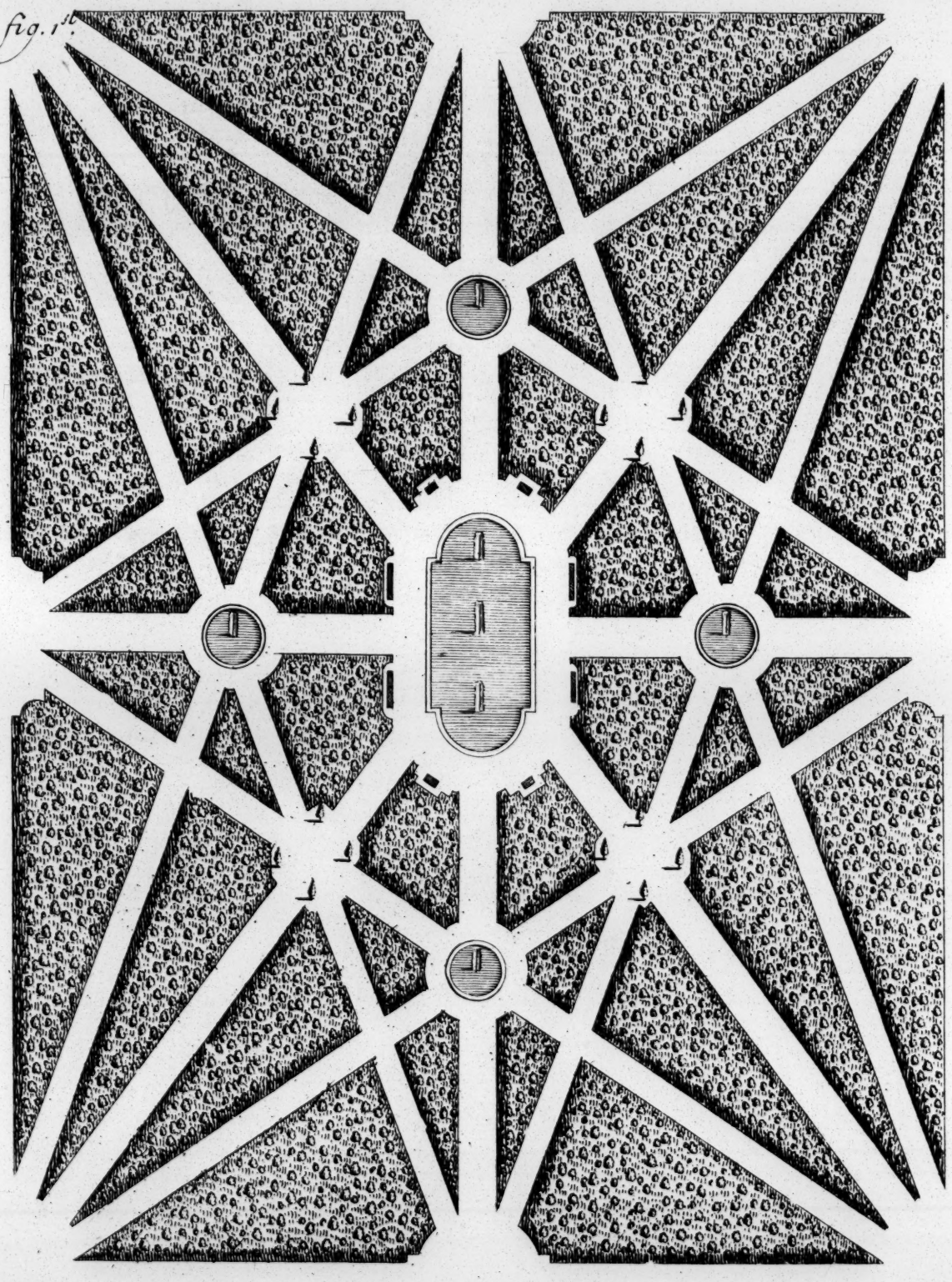
† *One half of this Cloiſter is graced with Arcades, and the other with Balls, that you may take your Choice.*

‖ *Theſe Ornaments of Flowers are very new in Woods, and have a wonderful good Effect.*

hav-

A Great Wood of Forrest trees pierced with a double Star.

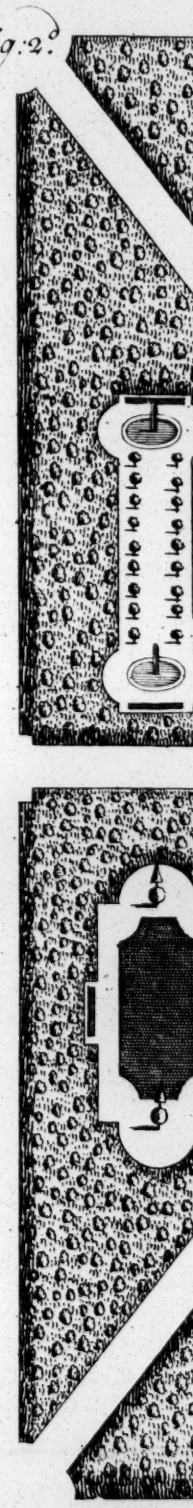
fig.1st



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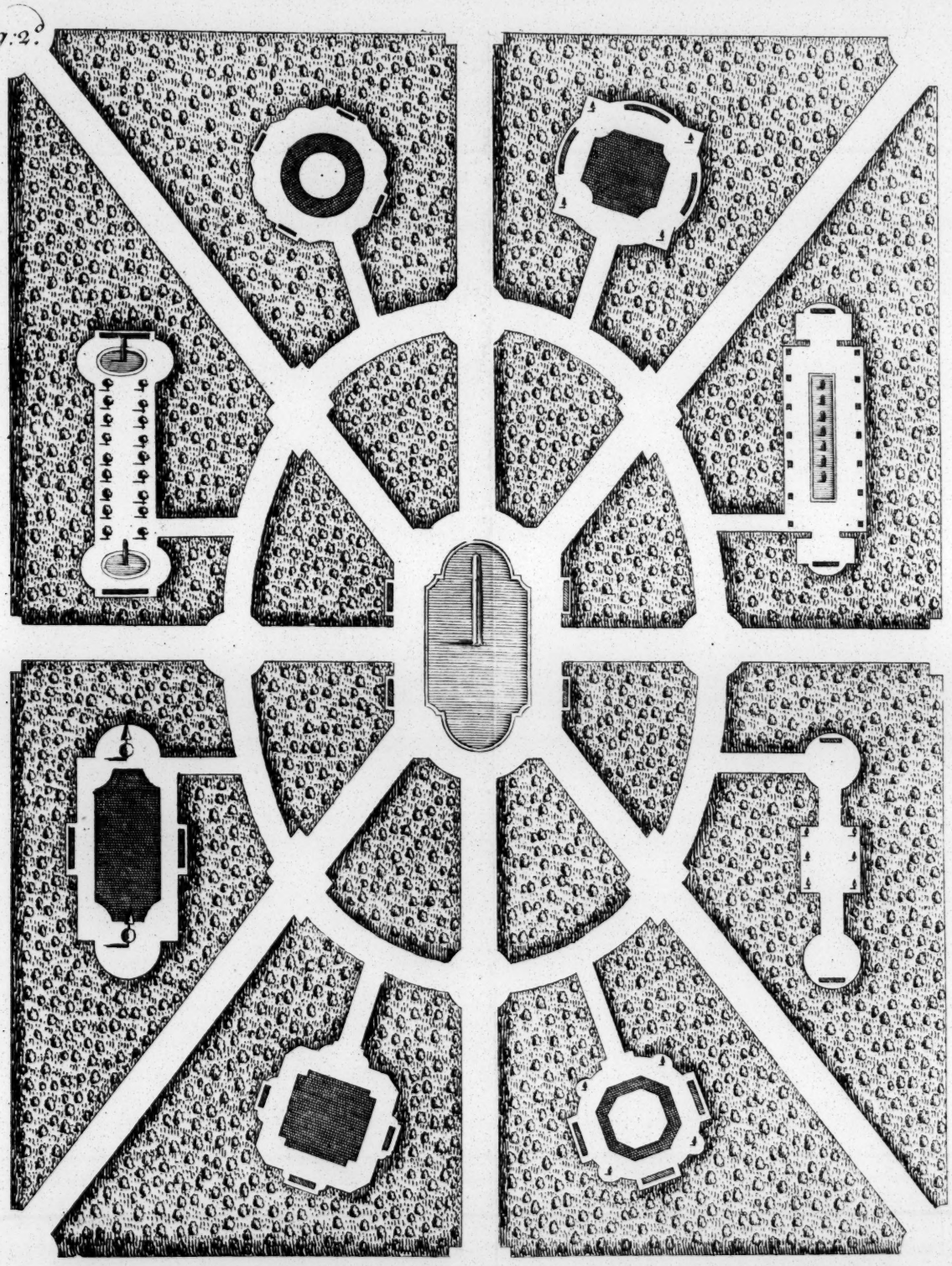
A Great Woo

fig.2d



l Great Wood of Forrest trees cut into a single Star wth Cabincts

fig: 2^d



60 Fathom

Pl. 1st C.

W. Hodges Gucht Sculp:

Designs for great Woods of For

fig: 1st

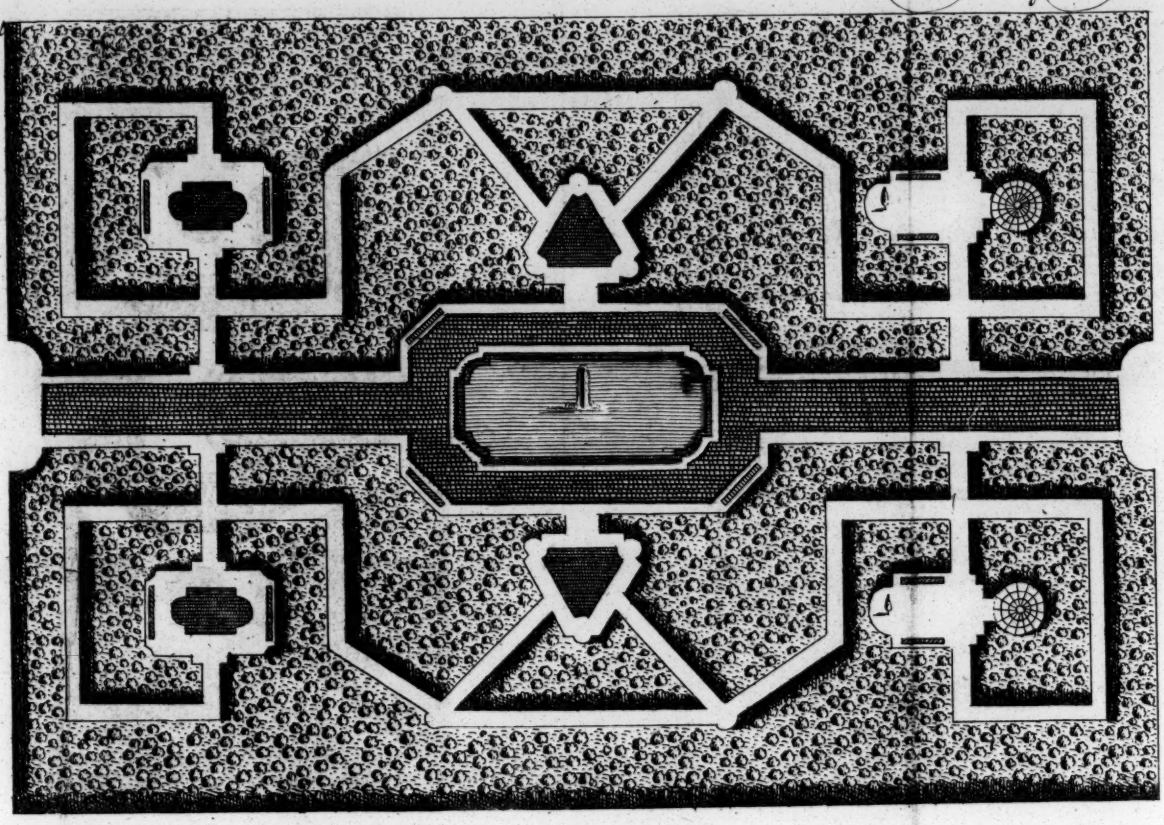


fig. 4th



fig. 2d

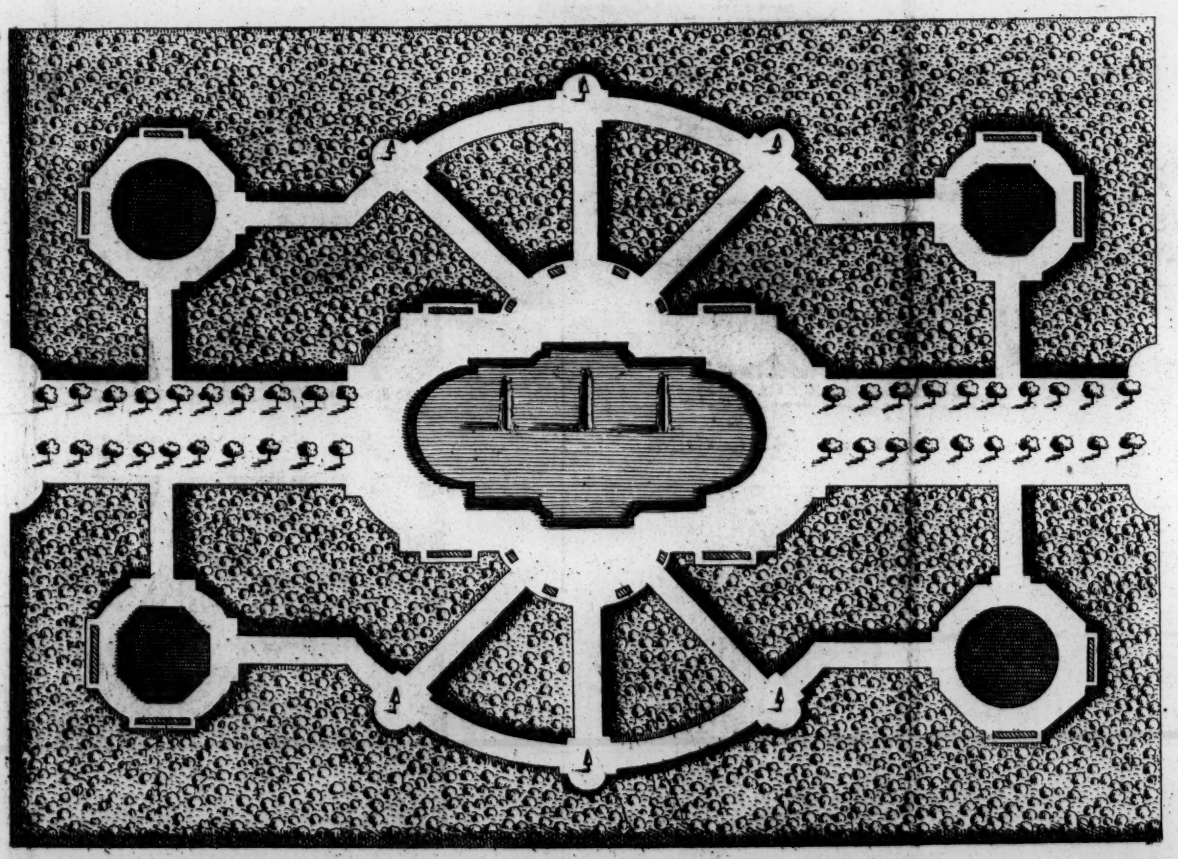


fig. 3d



5 10 15 30

fig. 4th.

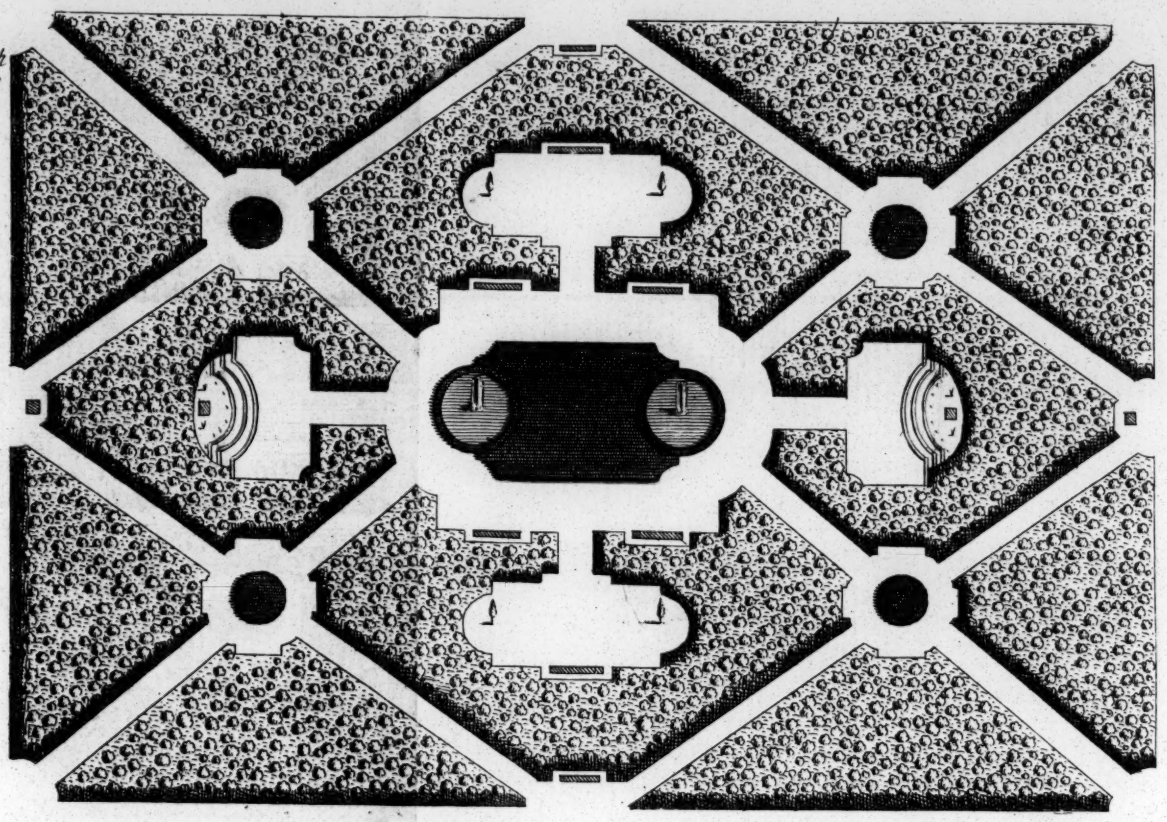
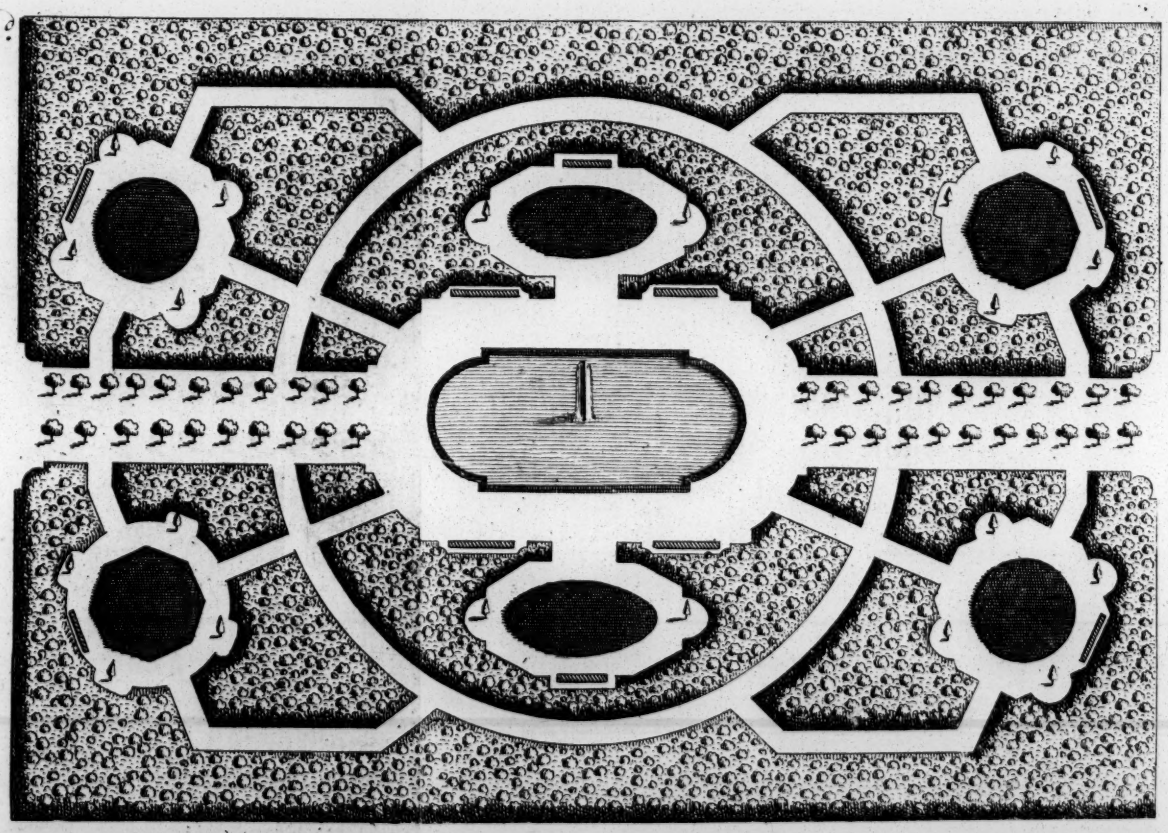


fig. 3d.



5 30 Fathom

Pl. 2. C.

M. Pur Bucht Sculs.

Designs of Woods of Fo

fig. 1st.

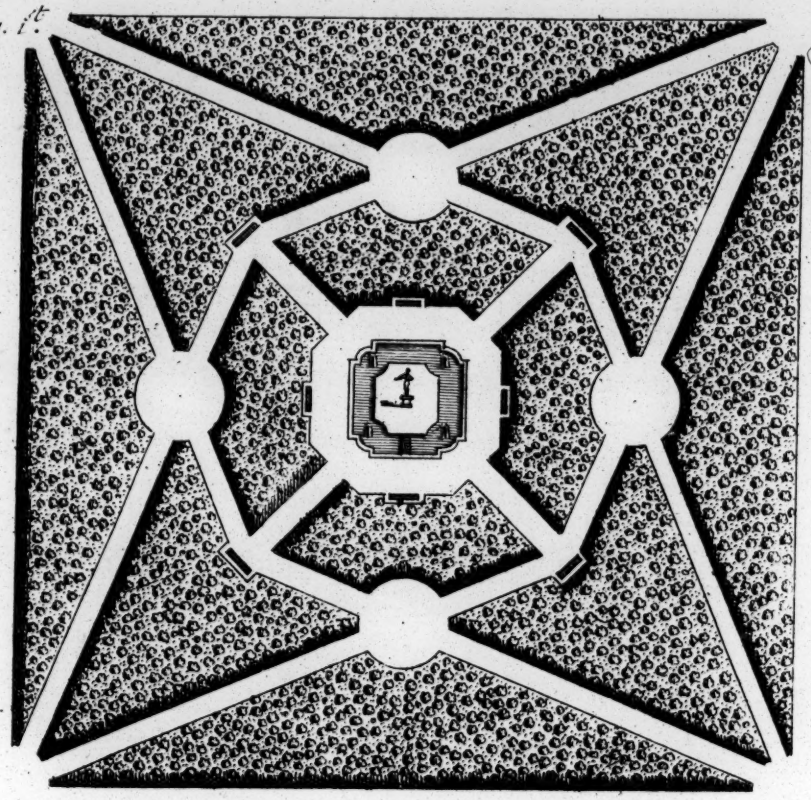


fig. 2d

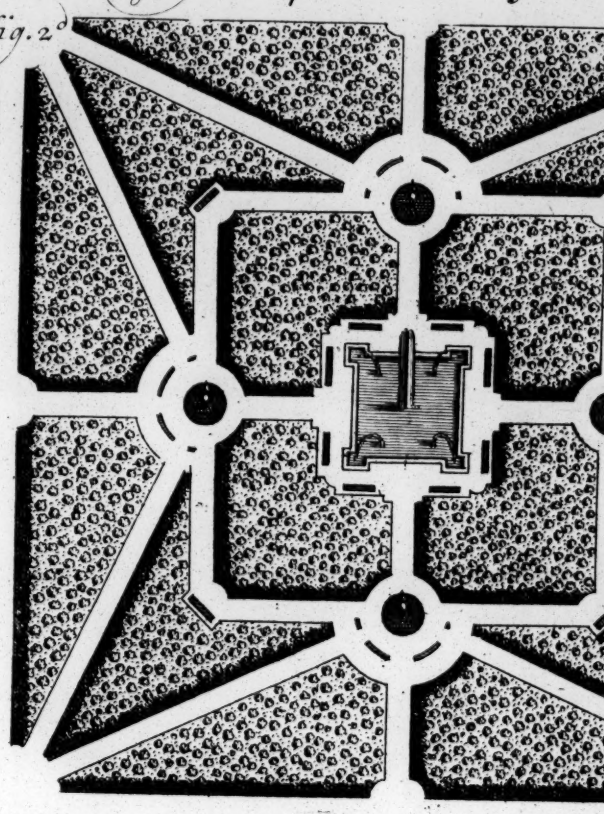


fig. 4th.

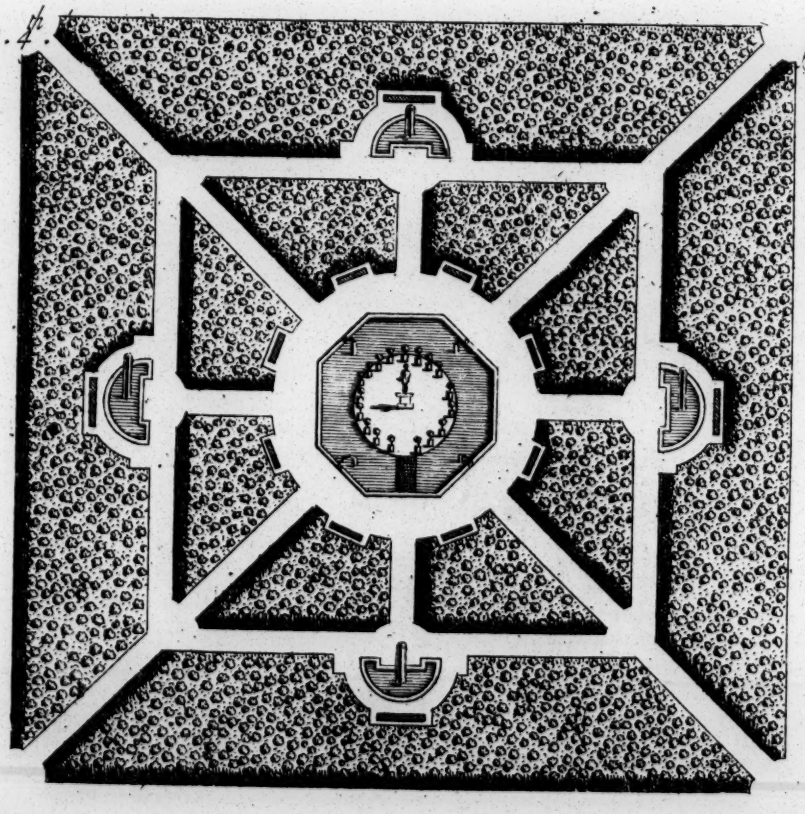
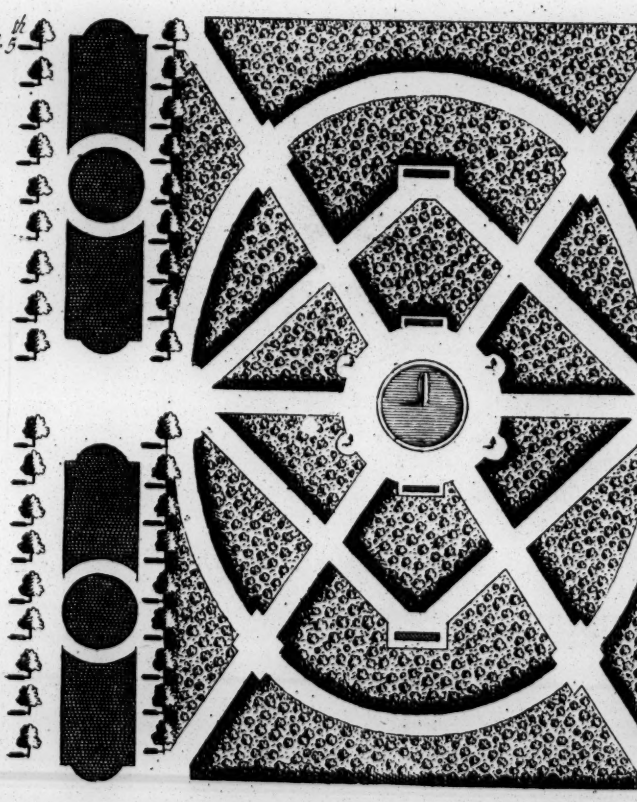


fig. 5th



5 10 15 30 Fa

oods of Forrest trees

fig. 3.d

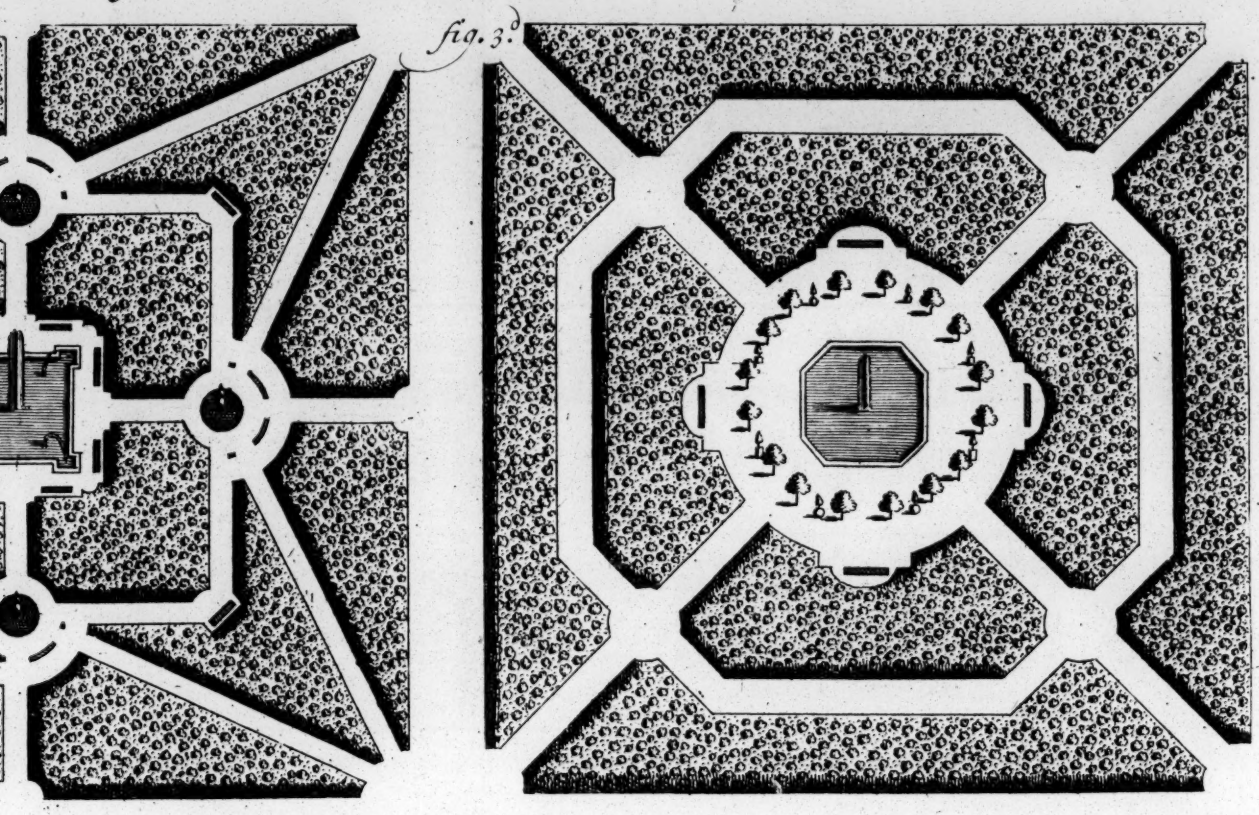
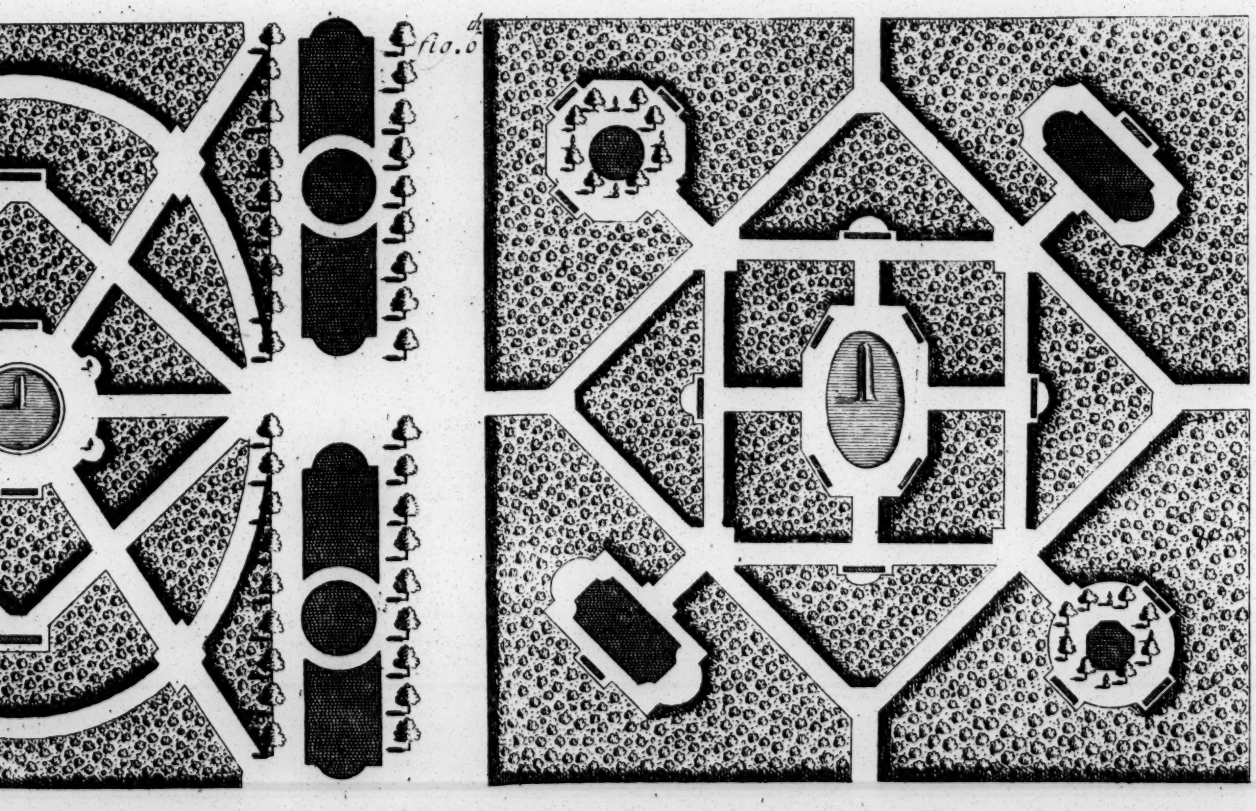


fig. 6



15 30 Fathom

W. I. Pinx. Stent. Sculp.

Designs of Groves of a Middl

fig.1.

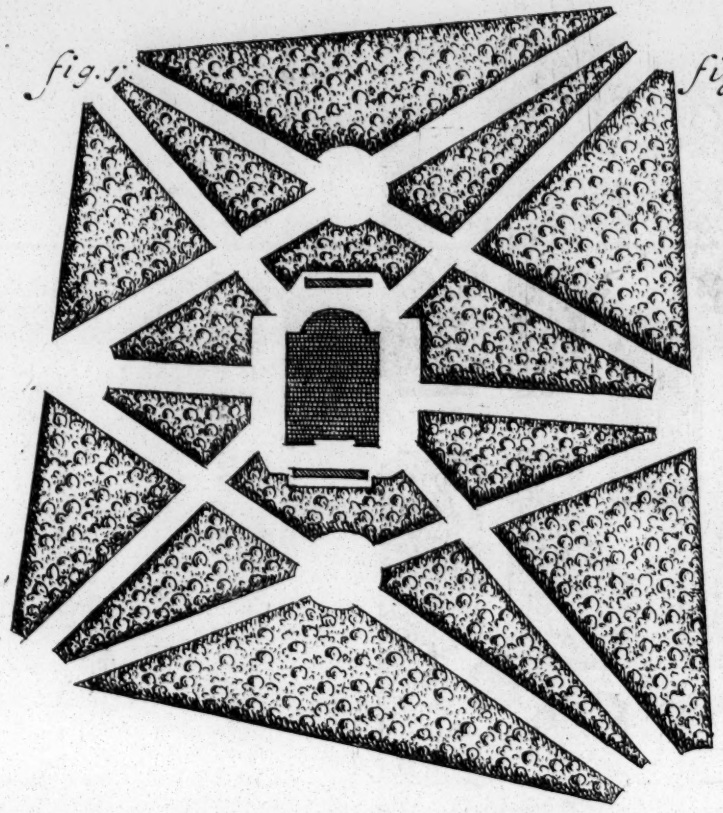


fig.2d.

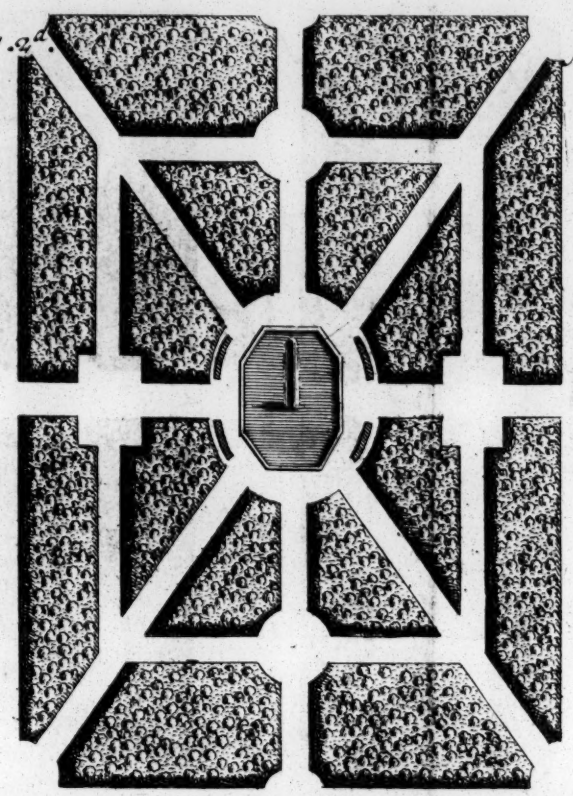
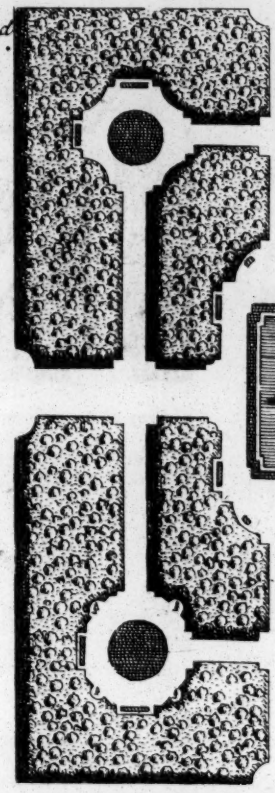


fig.3d.



5 10 15 30 Fath

fig.5th

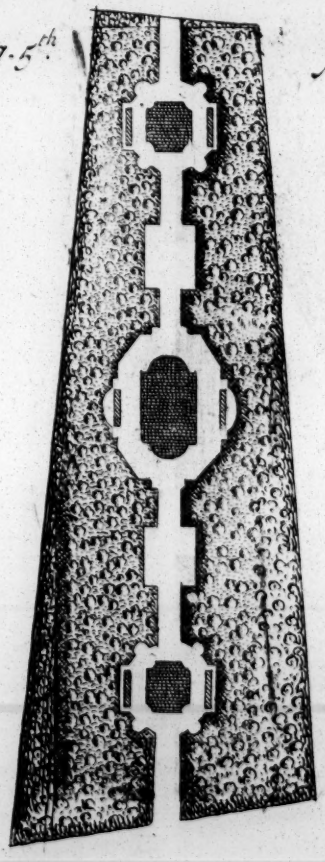


fig.6.

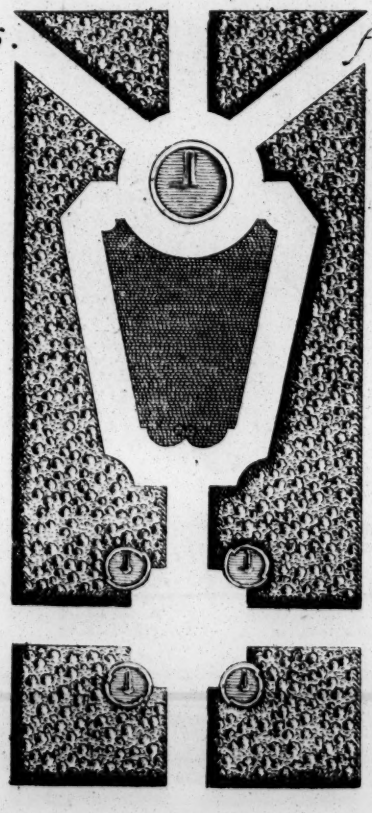


fig.7.

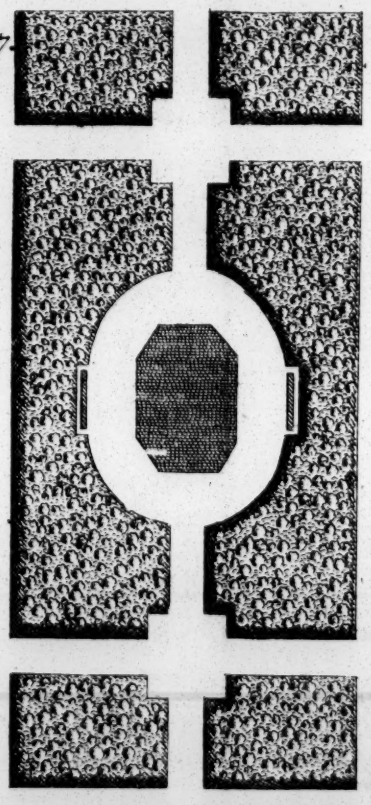
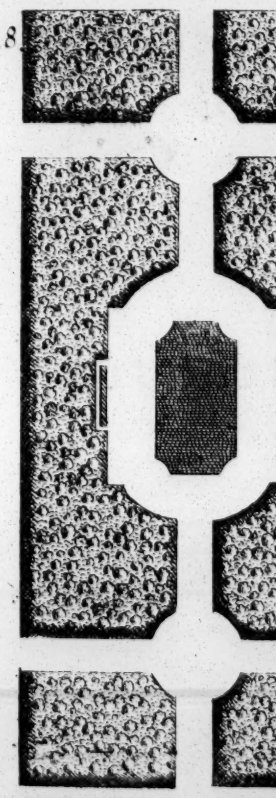


fig.8.



5 10 15

Pl.4th. C.

of a Middle height.

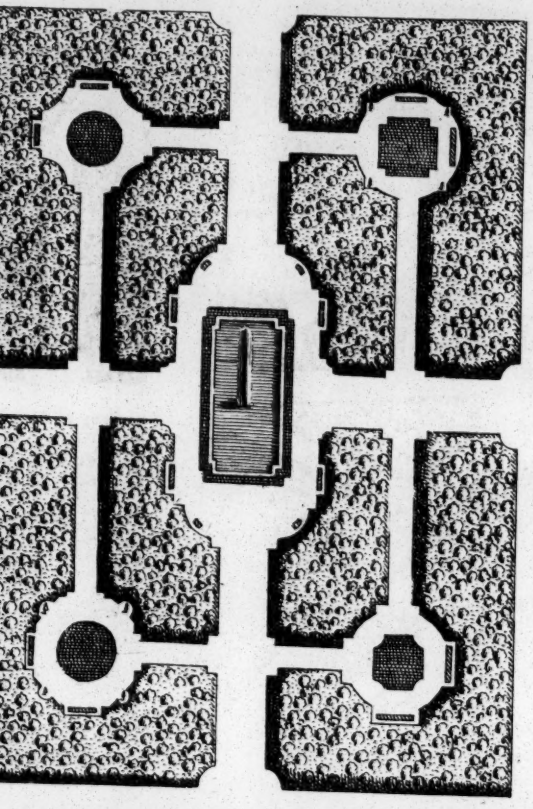
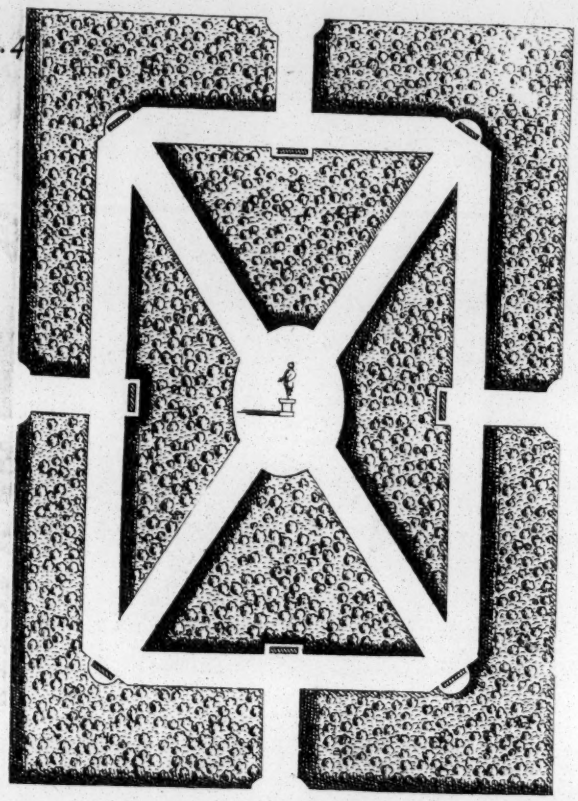


fig. 4



30 Fathom

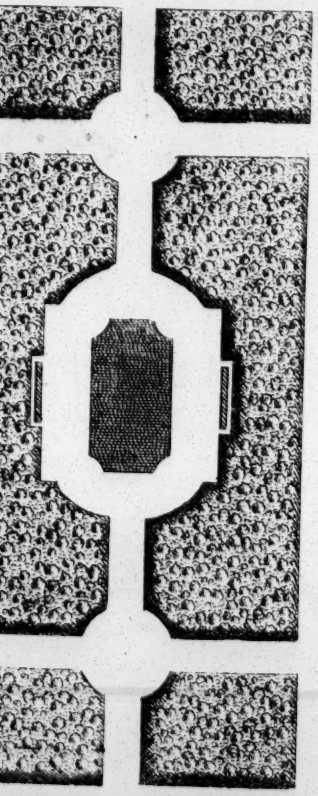


fig. 9.

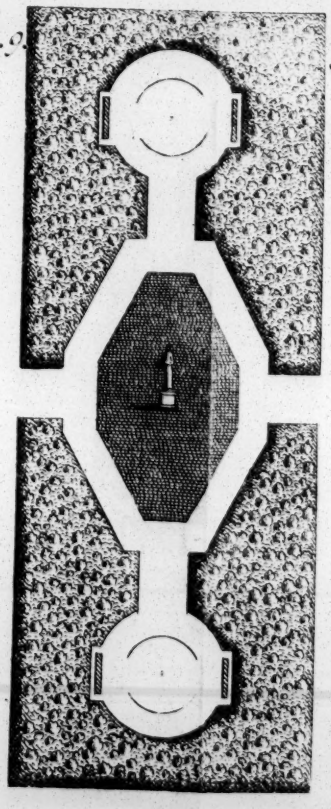
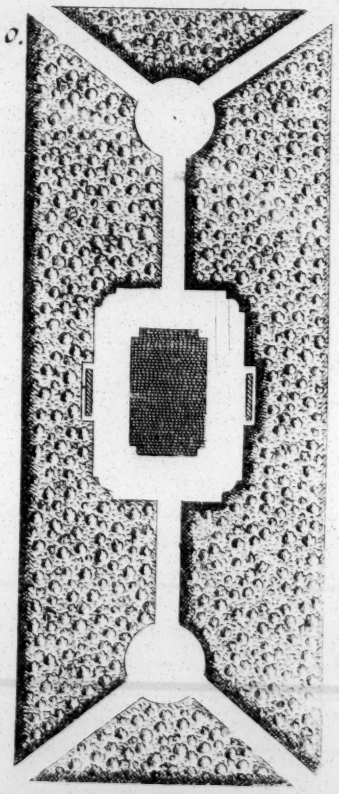


fig. 10.



30 Fathom

M. Pyt. Grinkhorn Grad.

Designs of Cabinets & Salons for

fig. 1

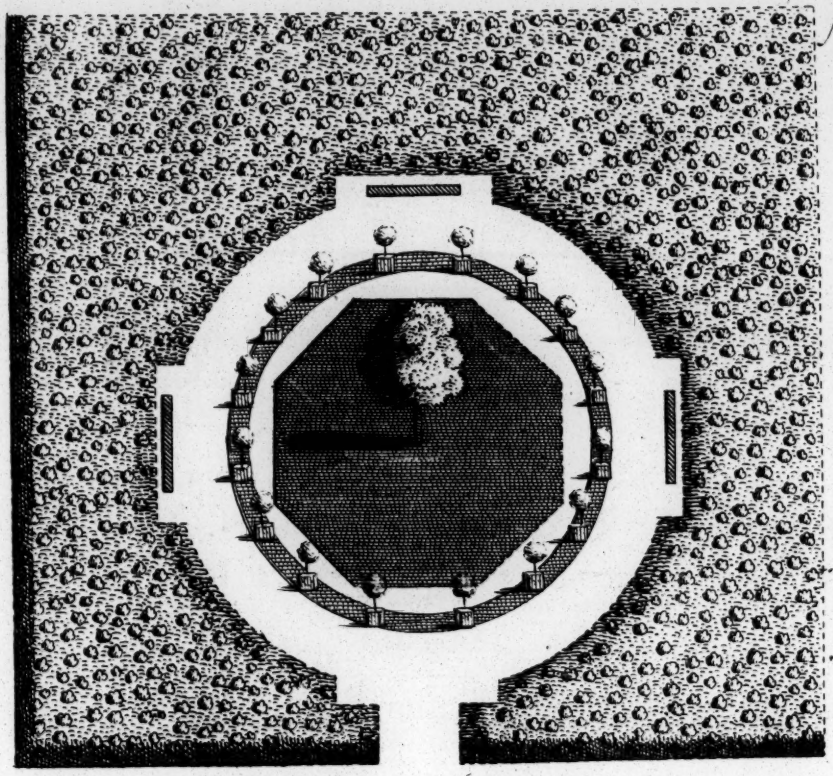


fig. 2

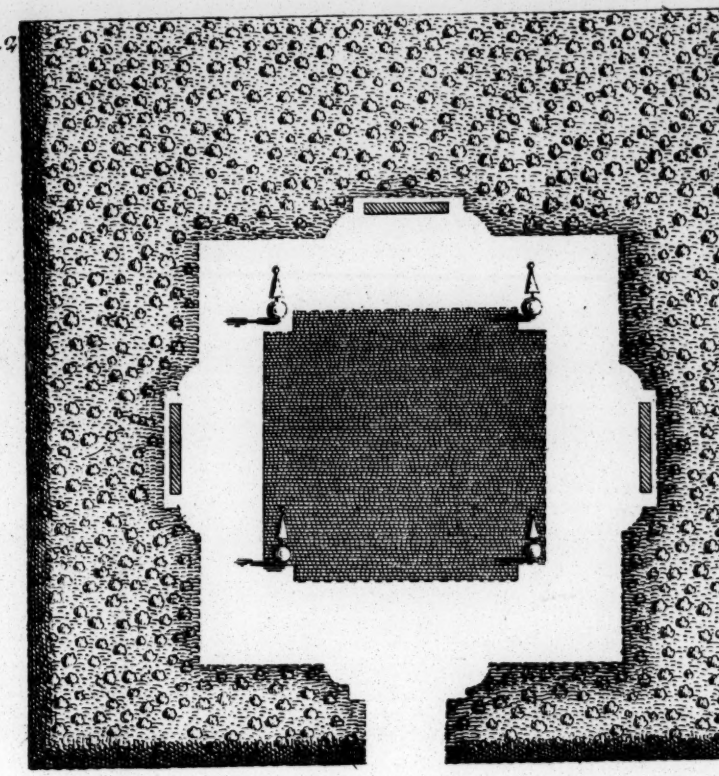


fig. 4

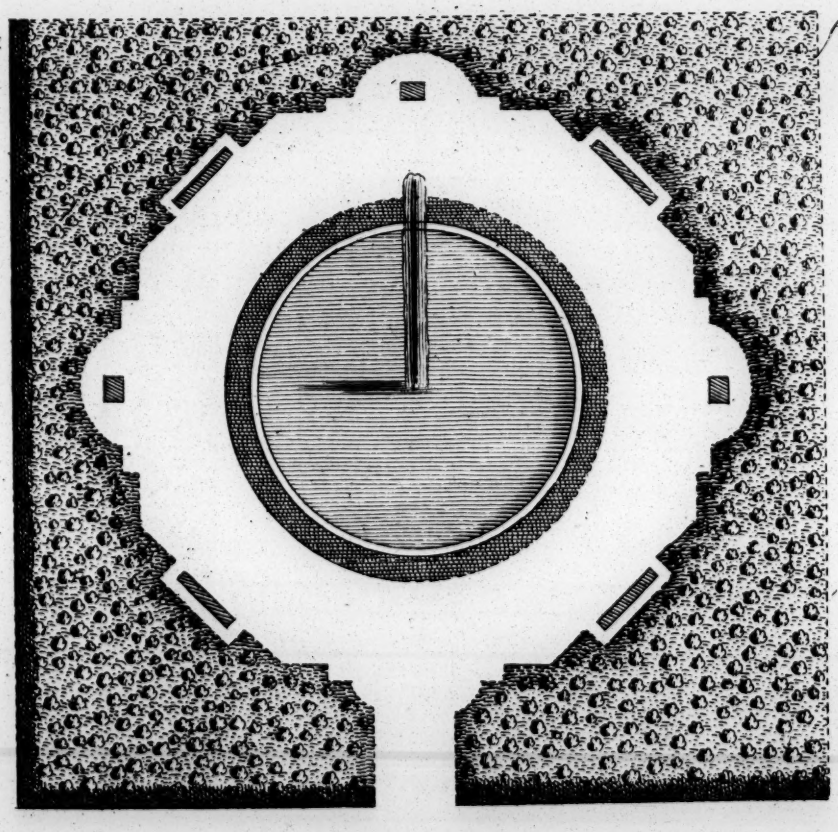
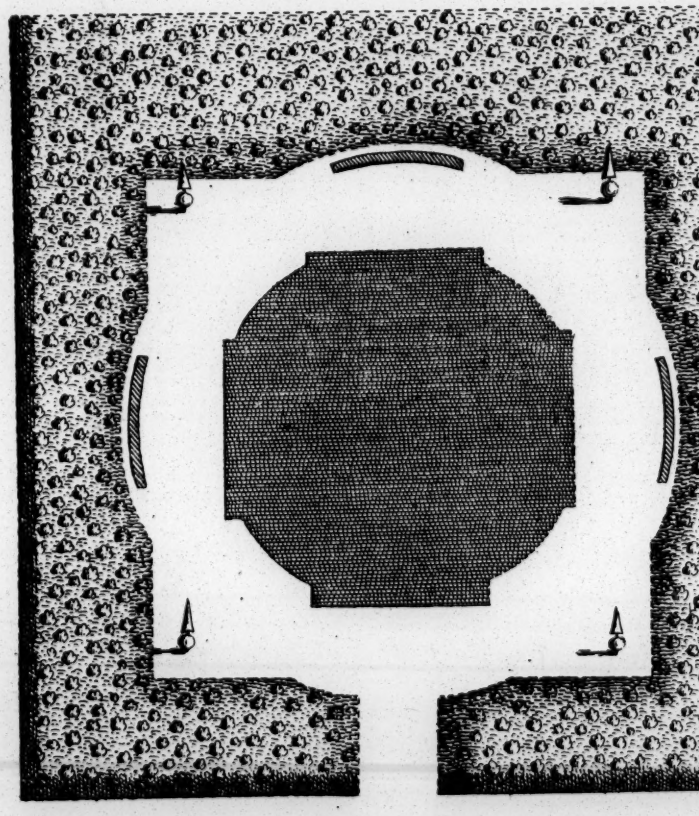


fig. 3



5 10 15

Pl. 5th. C.

Salons for Groves.

fig.3

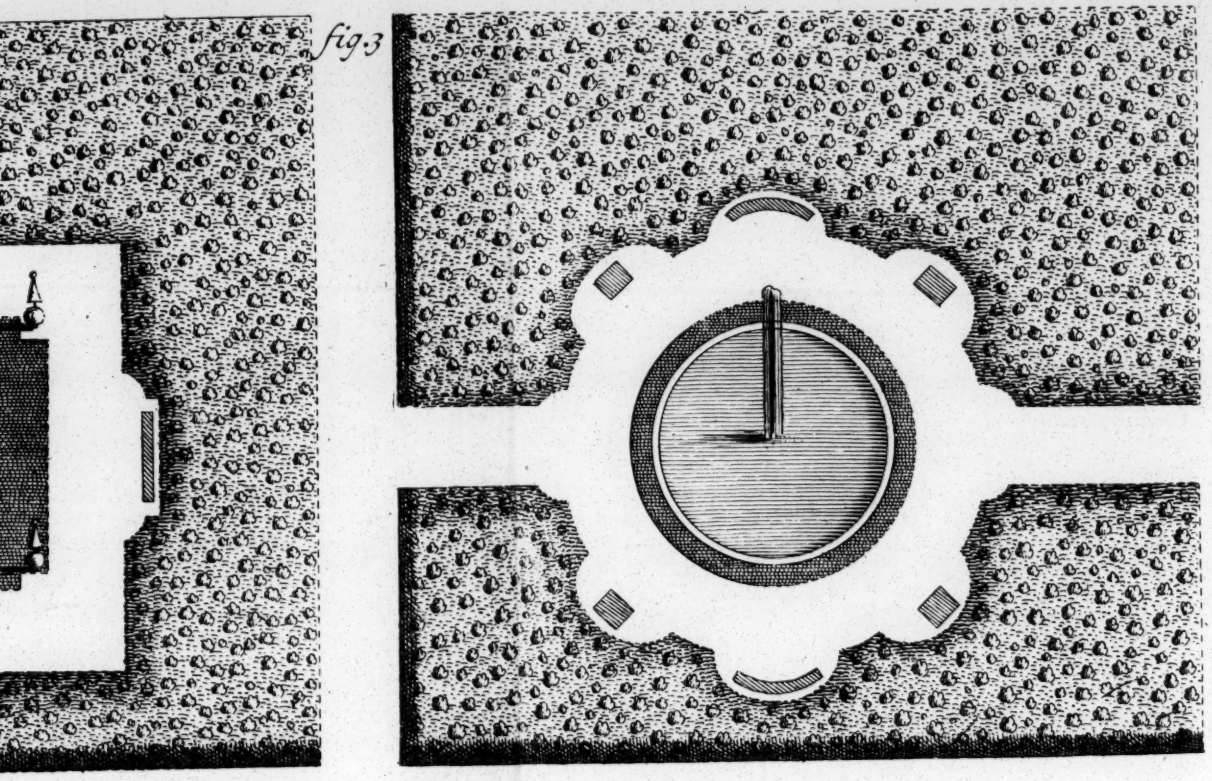
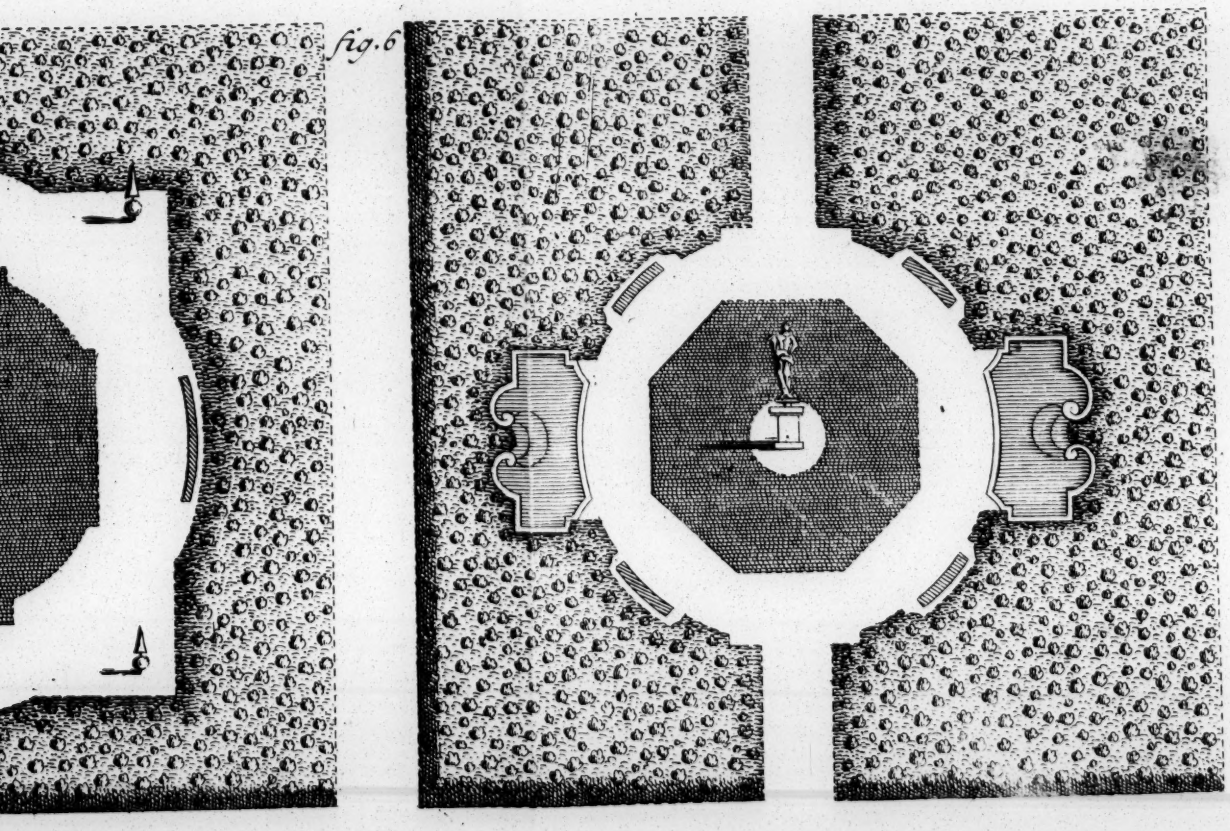


fig.6



10 15 Fathom

M.I.st Gu he sculp.

Designs of Cabinets & Salons

fig. 1.

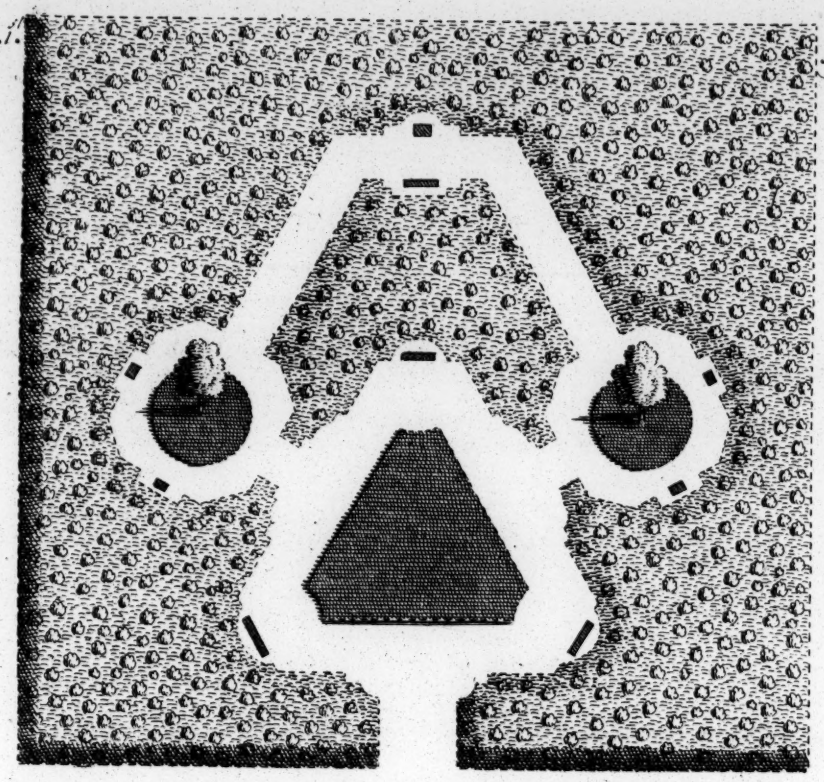


fig. 2.

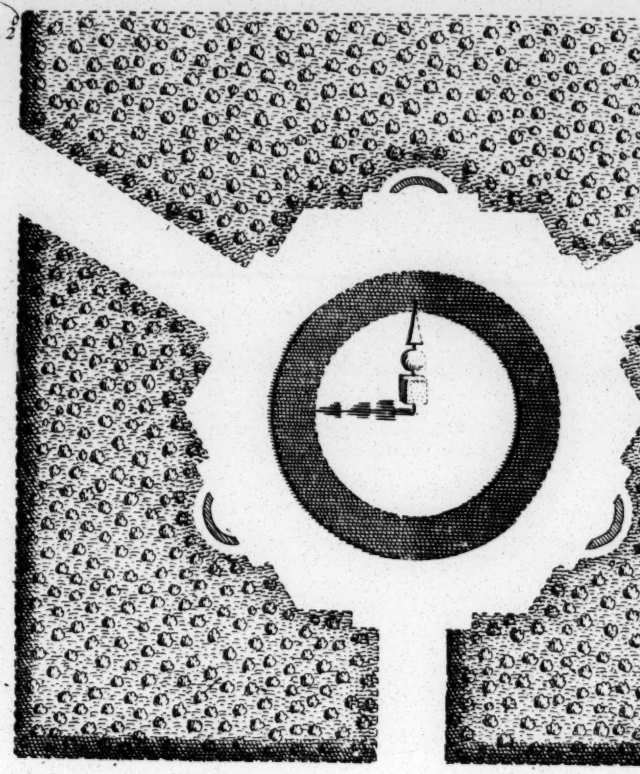


fig. 4.

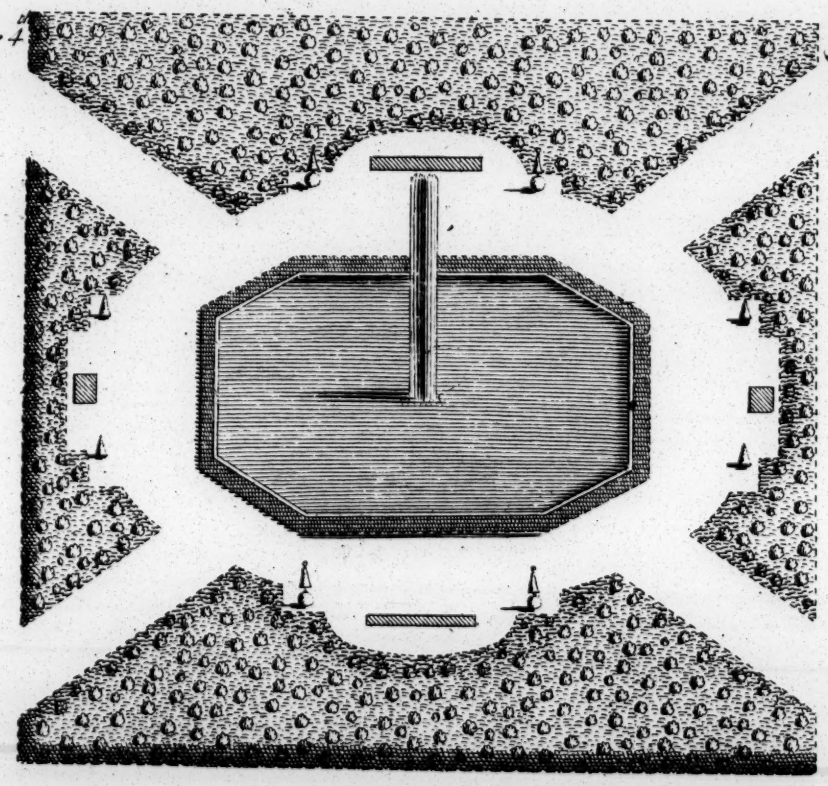
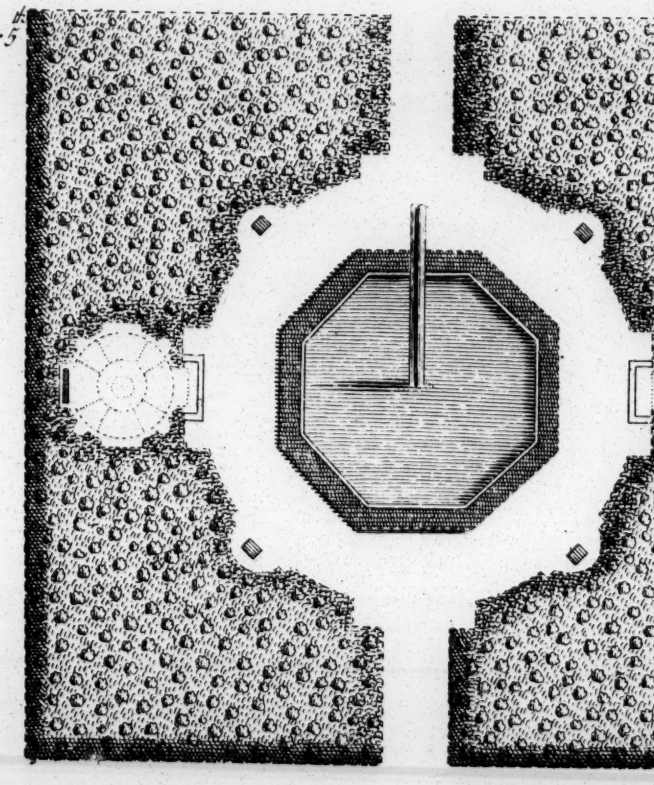


fig. 5.



5 10

Salons for Groves

fig. 5

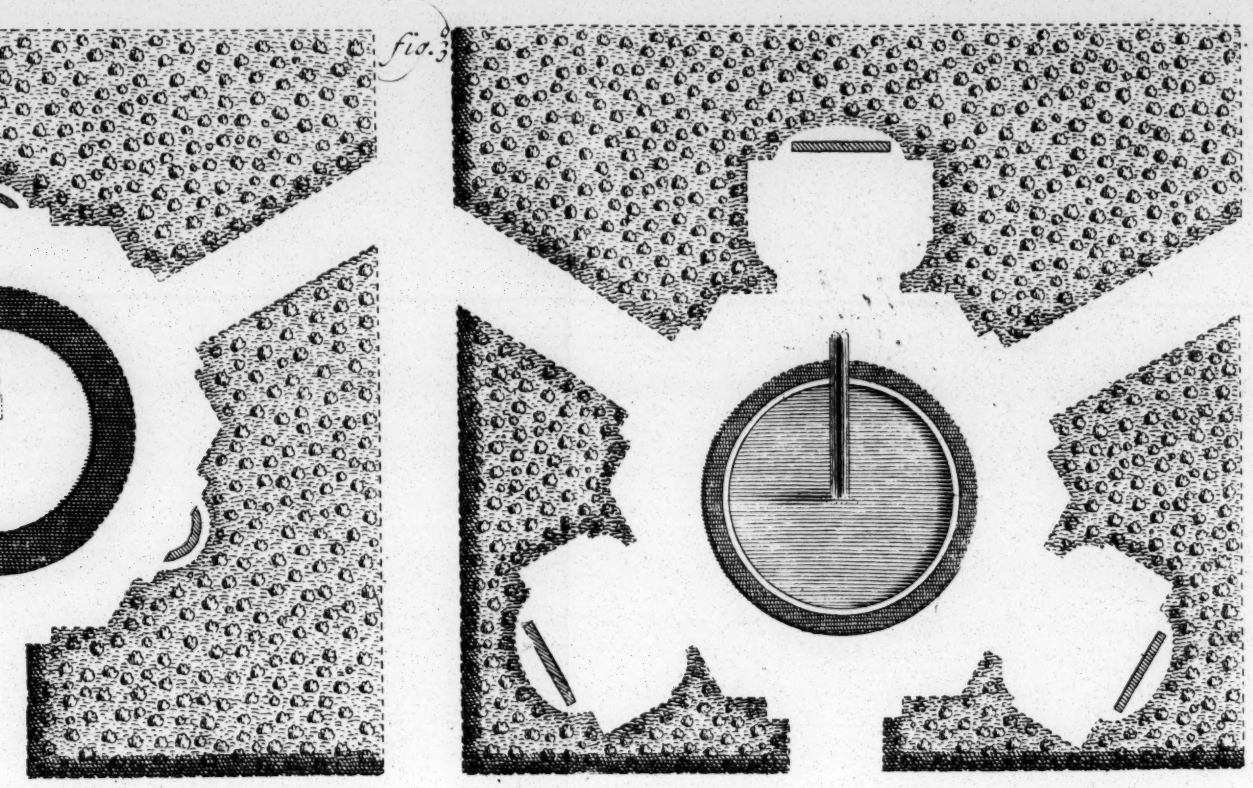
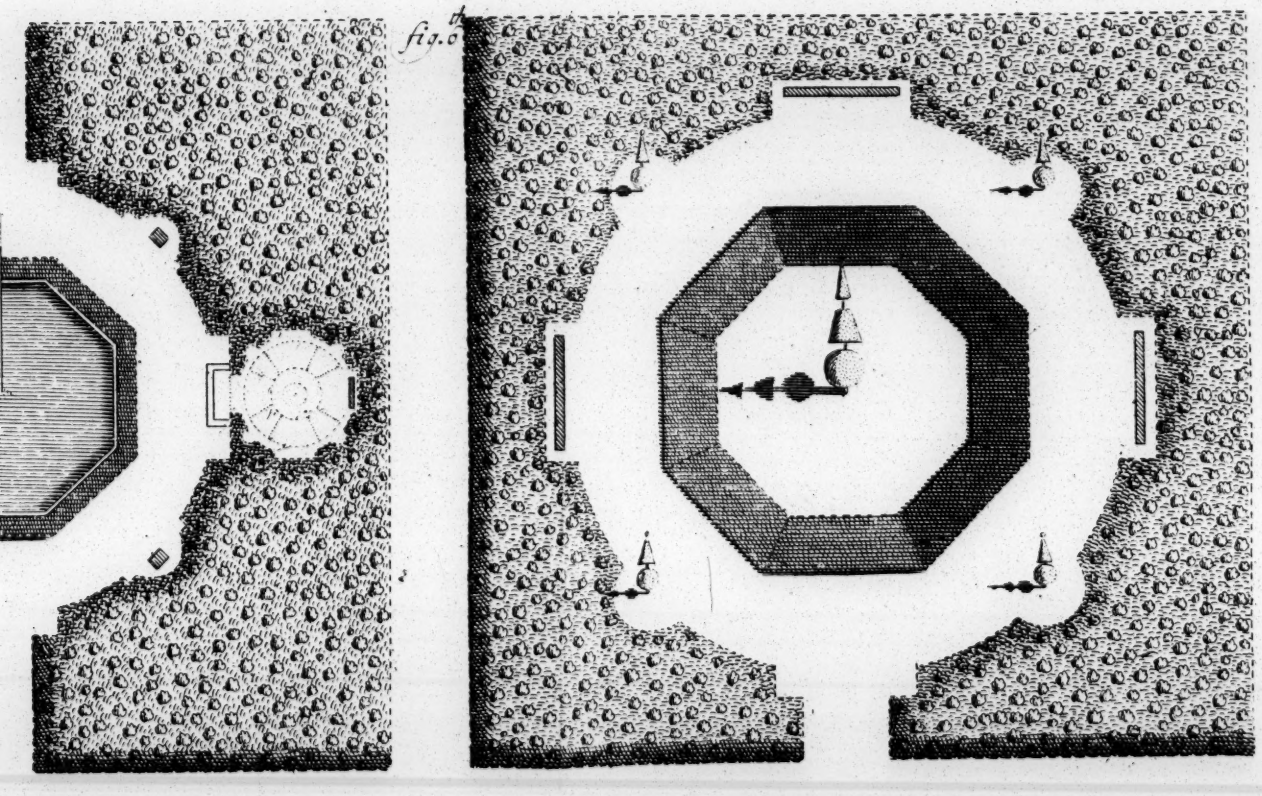


fig. 6th

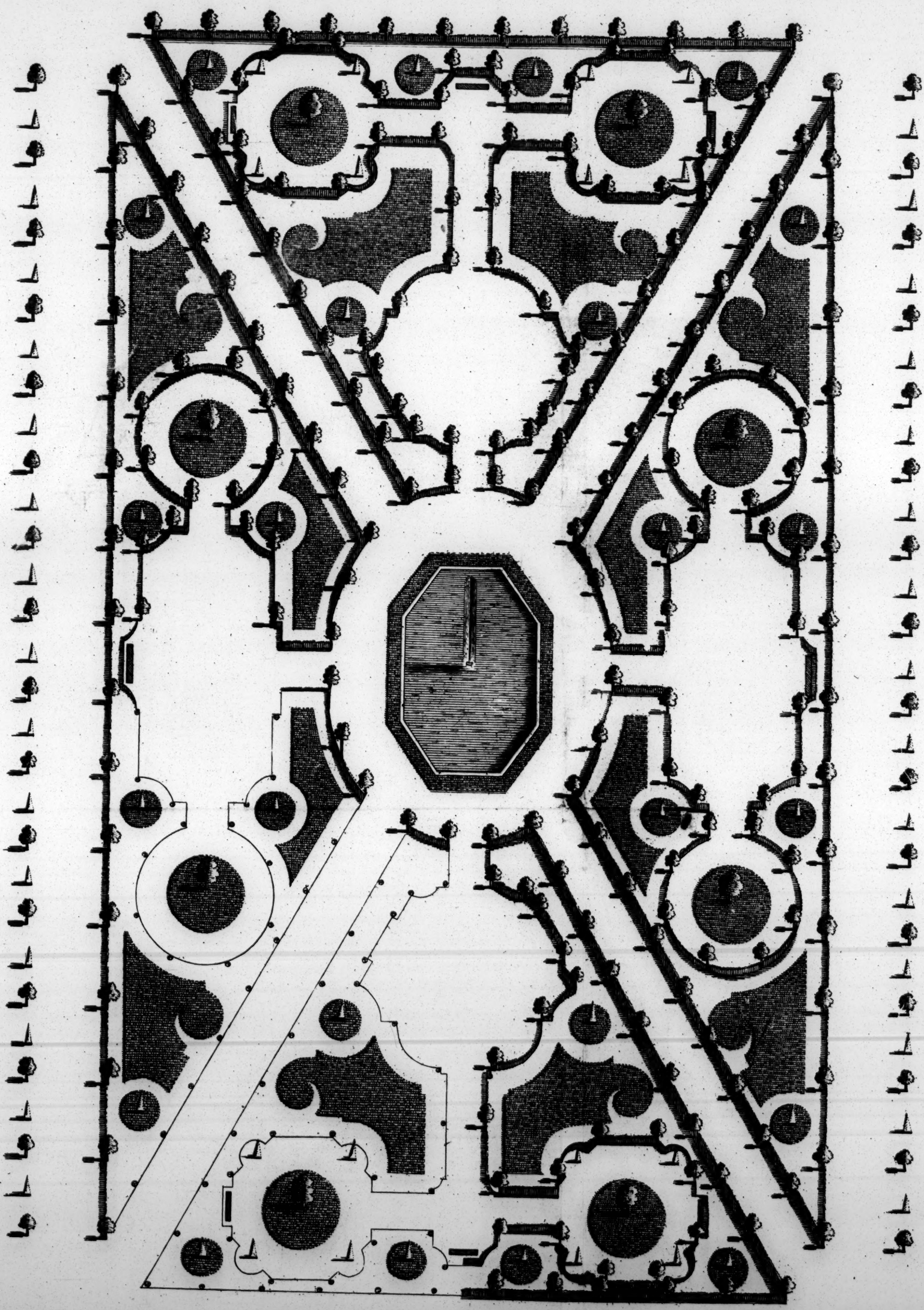


10 15 Fathom

Pl. 6th C.

M. Le Clerc Sculp.

An open Grove with Compartments



1 2 3 4 5 6 7 8 9 10 *Fathom.*

Pl: d. C. *M. Vd. Gucht Scul:*

fig. 1st

A great Hall of Horsechesnuts in a Wood.

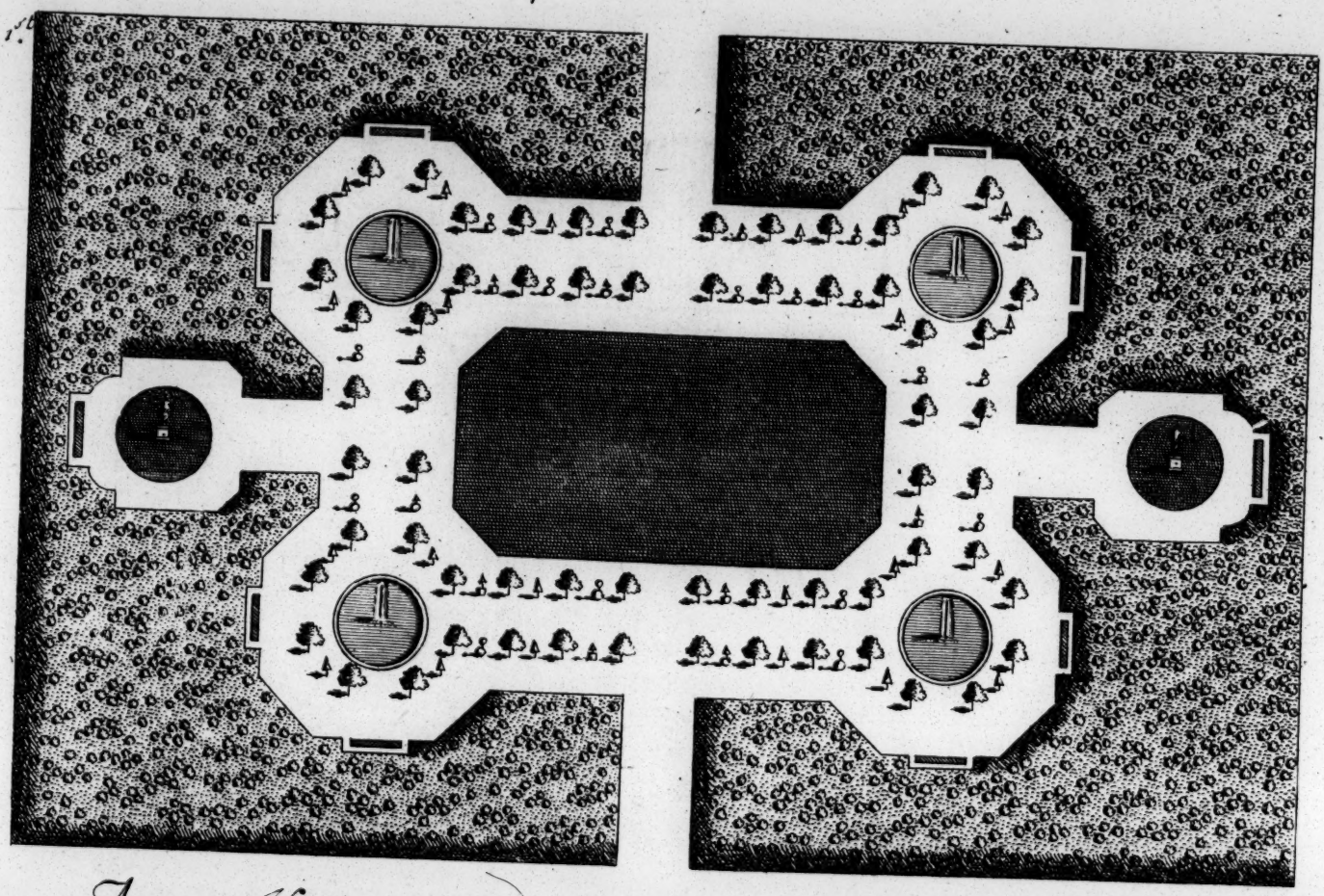


fig. 3d



fig. 2d

A great Hall of Horsechesnuts with borders of Grass.

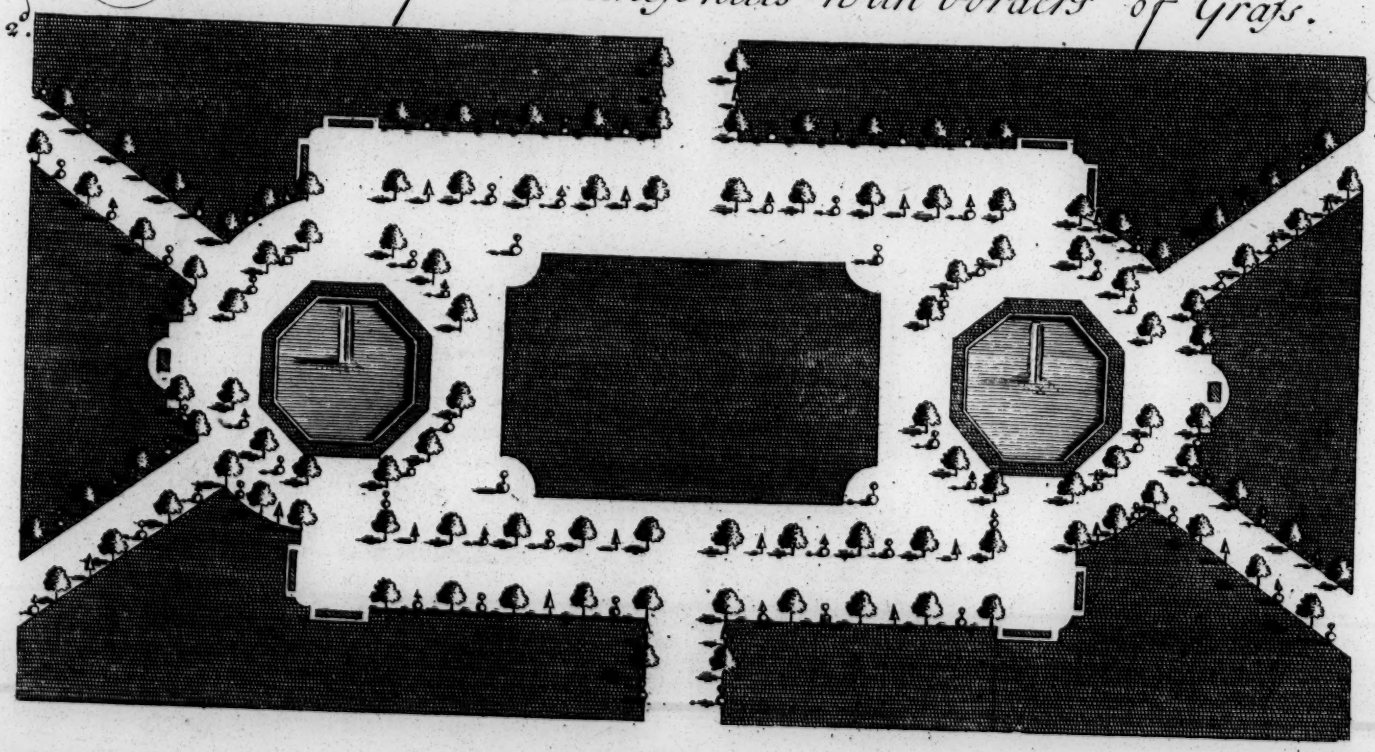


fig. 4th

A Li

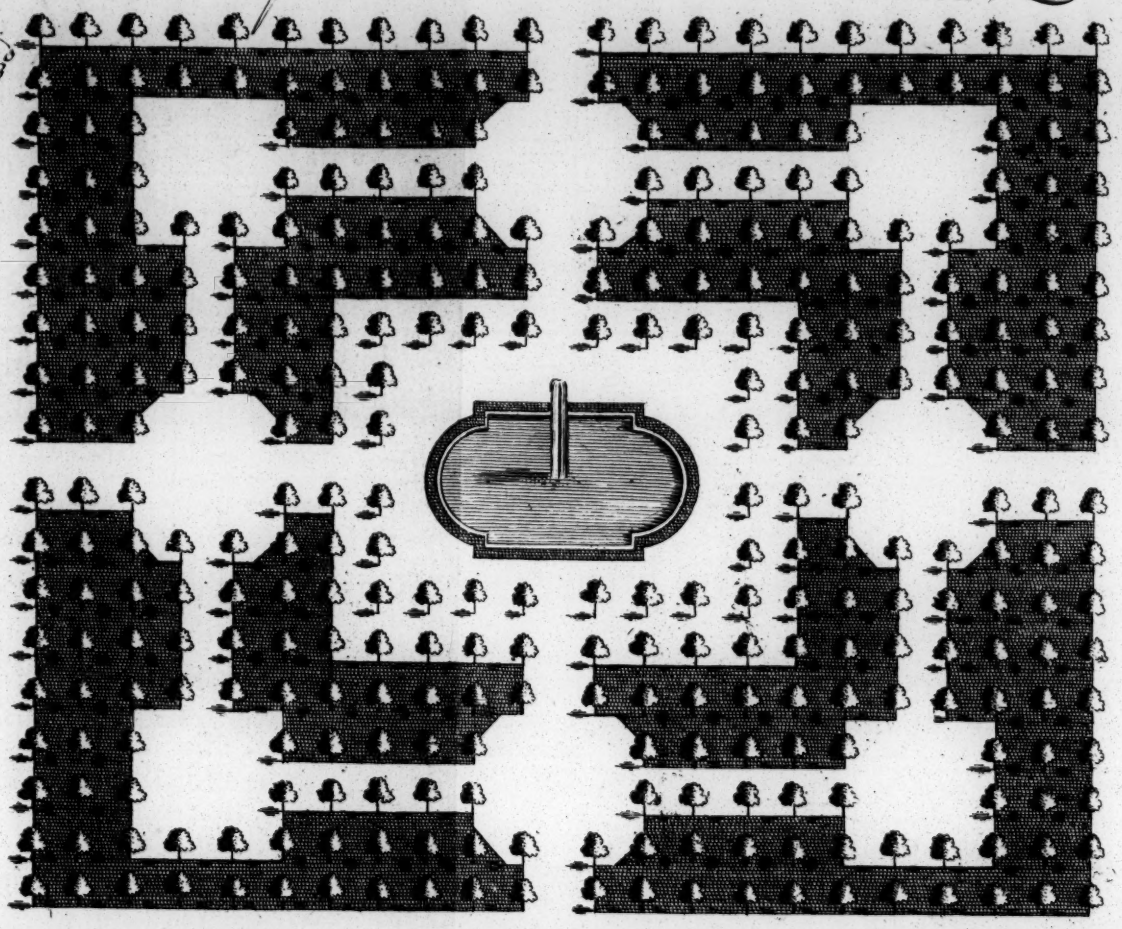


Pl. 8. C.

0 5 10 15 30 Fathom

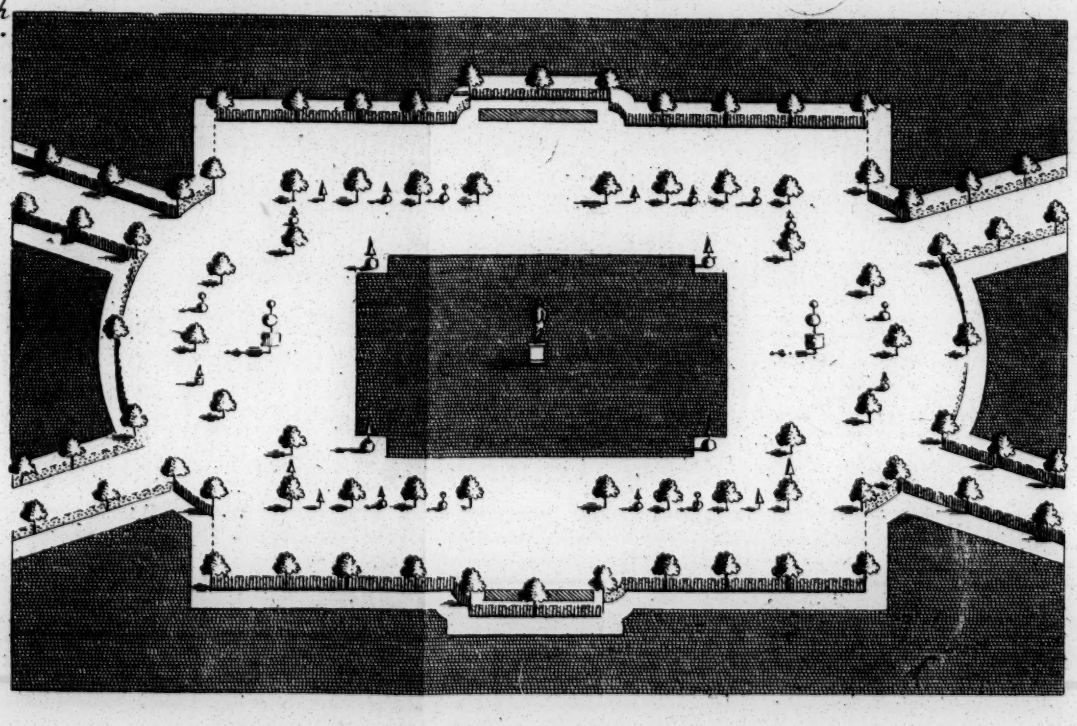
A Wood planted in Quincunce with Cabinets

fig. 3d



A Little Hall invironed with Palisades & green Borders.

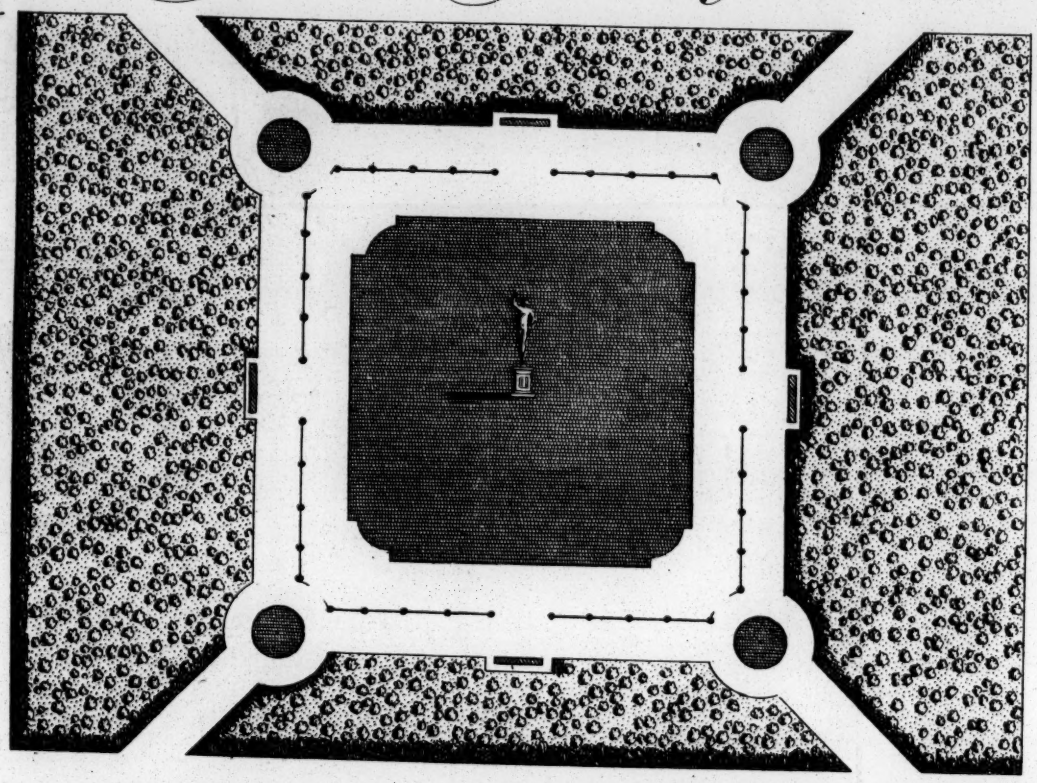
fig. 4th.



M. Vd Gucht. Scul.

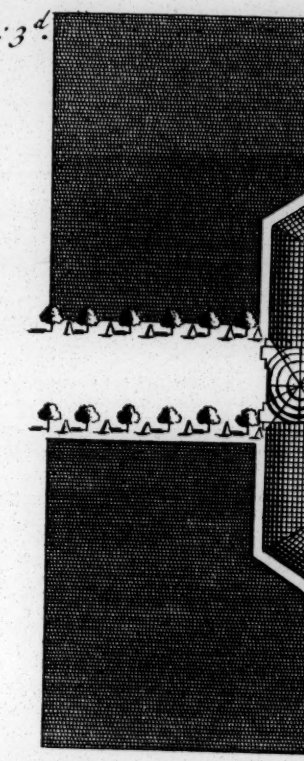
A large Cloister in ye middle of a Wood.

fig: 1st.



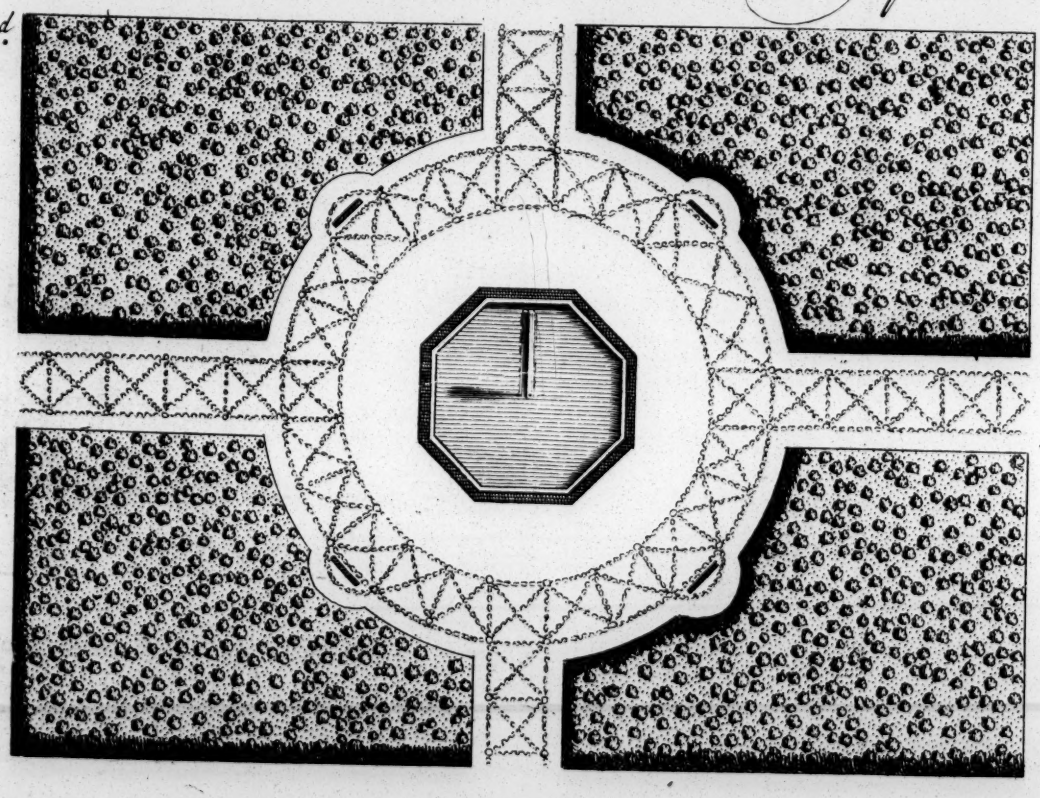
A Cloister cover

fig: 3d.



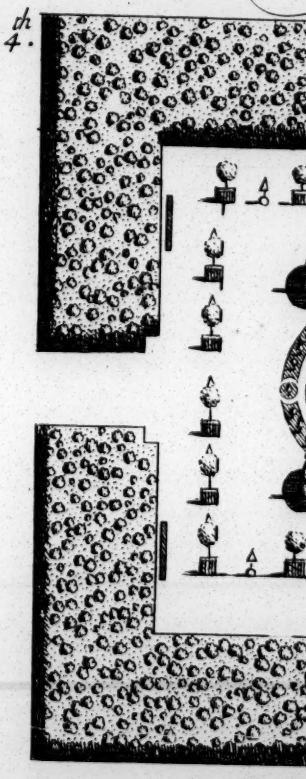
A small Cloister with Arbours made by ye Trees.

fig: 2d.



A Cloiste

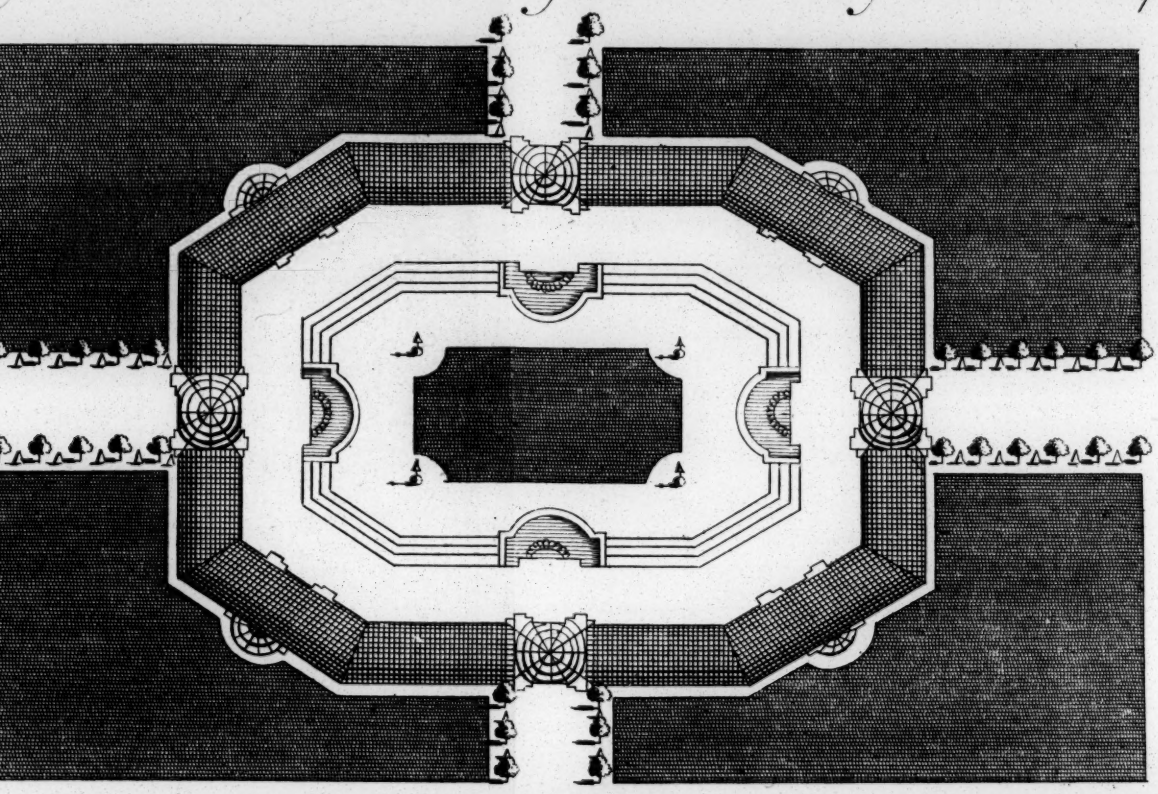
fig. 4th.



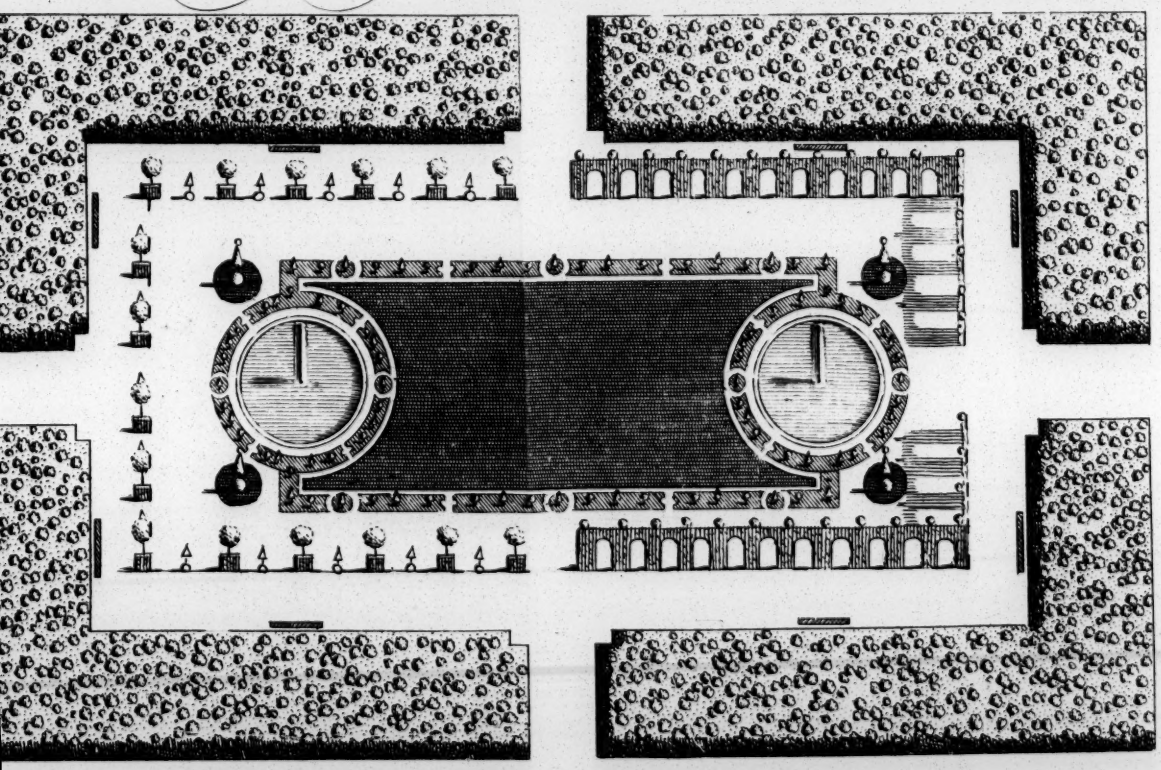
5 10 15 30 Fathom

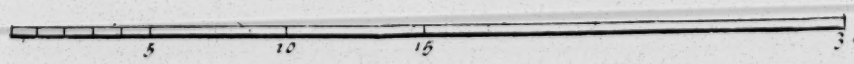
Pl. 9th C.

ister cover'd with Arbours of Lattice-work surrounded th w Grassplots

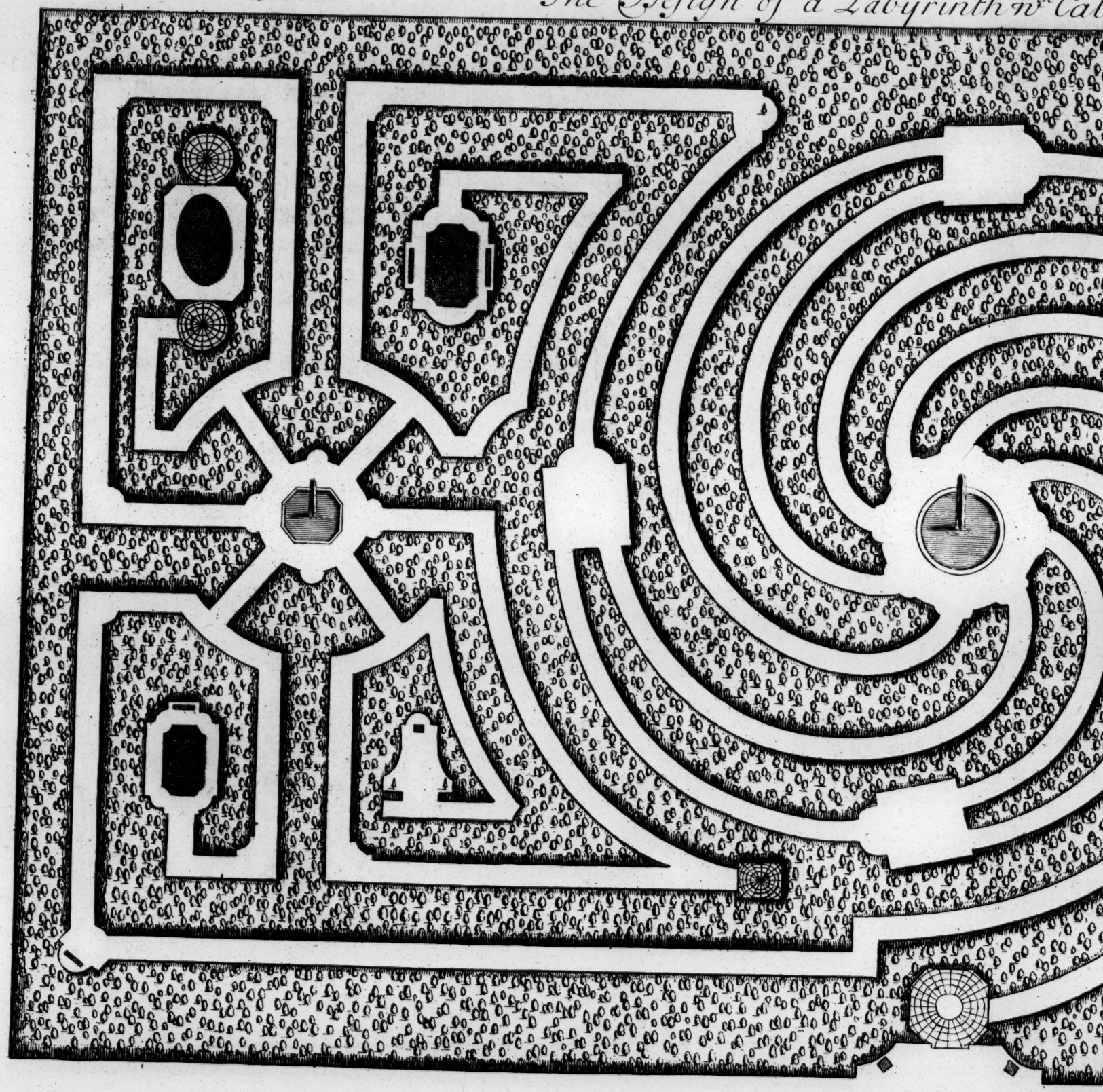


A Cloister gallery with Palisades cut into Arches .





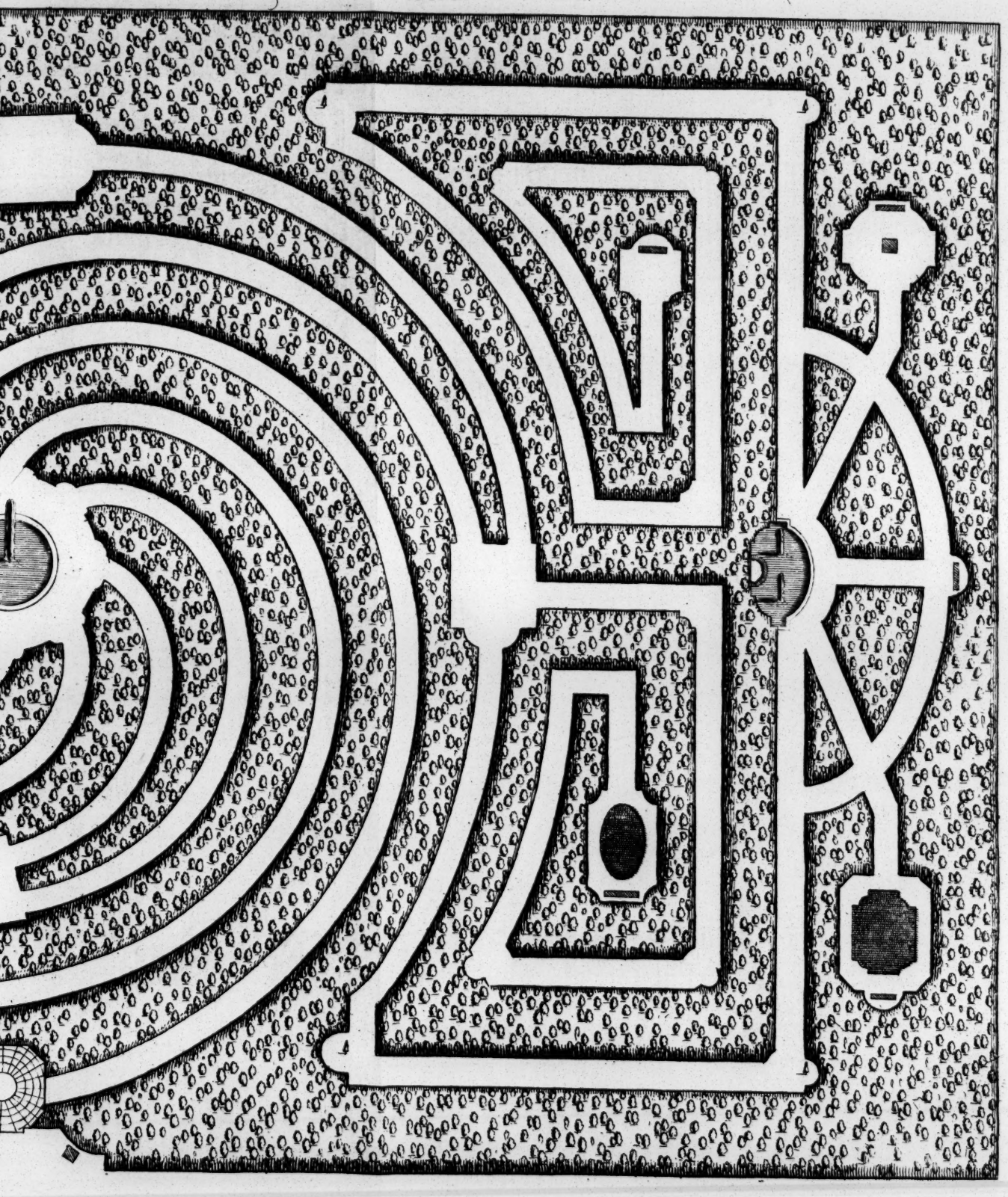
The Design of a Labyrinth nr Cal



M. Vdr Gucht Scul:

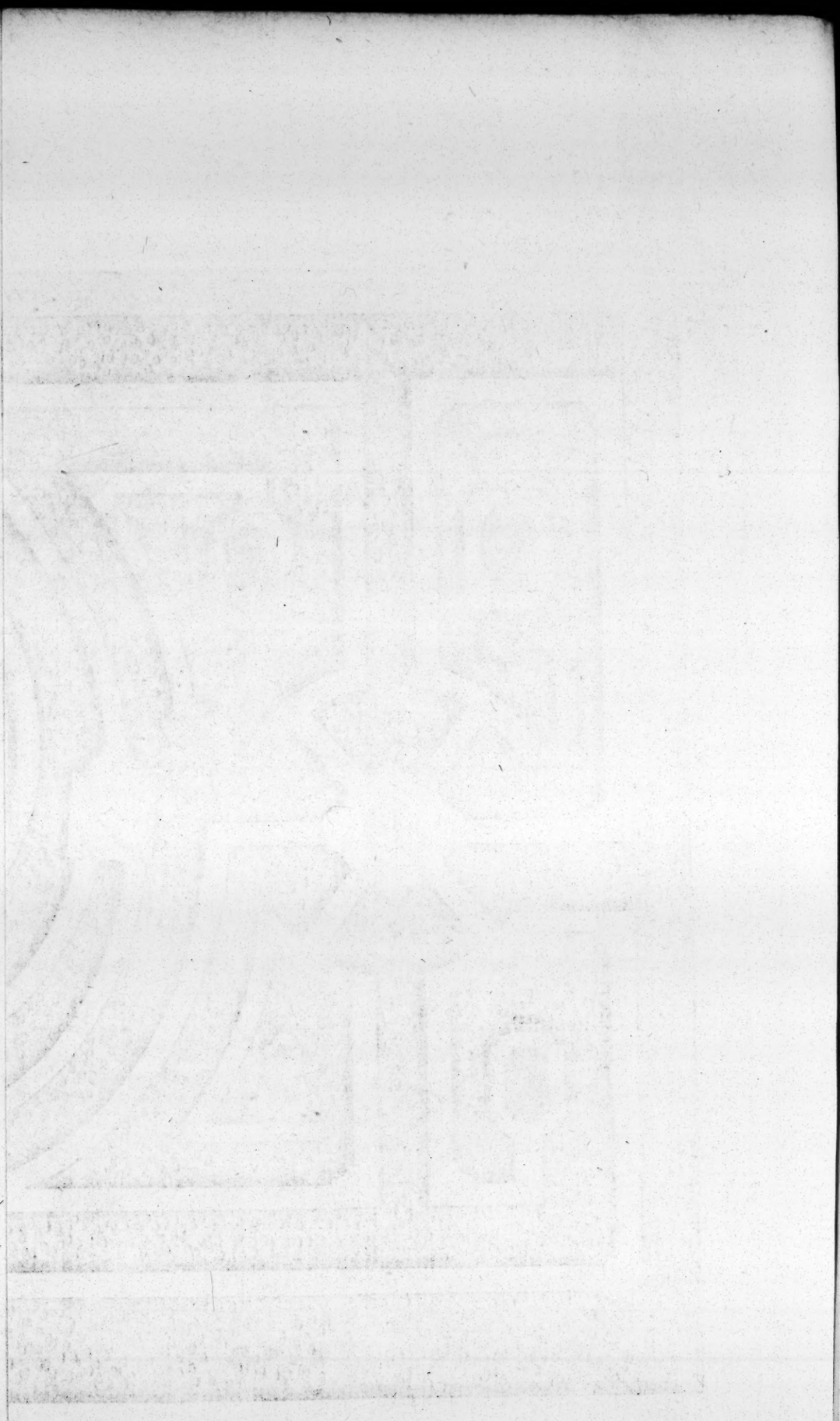
5 10 15

nth wt Cabinets & Fountains



30 Fathom

Plt. C.



having Baſons at the Ends, which are ſurrounded likewiſe with the ſame Border.

Laſtly, THE tenth Plate of Groves contains the Deſign of a Labyrinth, in a Volute or ſpiral Walk; in the Center of which is a Baſon, accompanied with a Hall pierced by eight Walks, which carry you to four Croſs-Ways, from whence you paſs inſenſibly into the Bottoms of the Maze, ſet off with Cabinets, Latticed-Arbors, Green-plots, Fountains, Figures, *&c.* which very agreeably ſurprize and amuſe thoſe that have loſt their Way in it. The great Number of Alleys, and the various Turnings to be met with in the Compoſition of this Labyrinth, render it extremely intricate and puzzling, without taking any thing from the Beauty and Regularity of the Deſign. There is but one Entrance into it, which is alſo the Outlet, where there is placed a Cabinet of Lattice-work, on purpoſe to render it ſtill more difficult.

The Labyrinth of Verſailles, *and that of* Chantilly, *are very well cut, and are adorned with all that Art can add to Nature.*

THIS Labyrinth requires ſome room to be handſomely executed, and can ſcarce be planted in leſs than ſeven or eight Acres of Ground, without the Alleys coming too near each other, which would take away the Intricacy of it, and conſequently all its Merit.

CHAP. VII.

Of Bowling-greens, or hollow Funds of Graſs, of great Aſcents, Slopes, Banks, and Flat-works of Turf, with the Manner of laying, ſowing, and keeping the ſame.

THE Word *Bowling-green* is one of the moſt common Uſe in ſpeaking of a Pleaſure-Garden, and yet is that which is leaſt underſtood, moſt People being ignorant of its true Signification and Etymology.

Dictionary of the French *Academy.*

Dictionary of Davilier.

Furetiere.

THE Invention and Original of the Word *Bowling-green*, comes to us from *England*. Many Authors derive it from two *Engliſh* Words; namely, from *Bowl*, which ſignifies a round Body; and from *Green*, which denotes a Meadow, or Field of Graſs; probably, becauſe of the Figure in which it is ſunk, which is commonly round, and cover'd with Graſs. Others will have it, that the Word *Bowling-green* takes its Name from the large Green-plots, on which they are wont to play at Bowls in *England*; and for which purpoſe the *Engliſh* take care to keep their Graſs very ſhort, and extremely ſmooth and even.

A BOWLING-GREEN in *France* differs from all this. We mean no other by this Word, than certain hollow Sinkings and Slopes of Turf, which are made either in the middle of very large Graſs-works and Green-plots, or in a Grove, and ſometimes in the middle of a Parterre after the *Engliſh* Mode; which makes ſome People confound the *Parterre à l'Angloiſe* with the *Boulingrin*, believing them to be the ſame thing, becauſe the Invention of theſe two Compartiments comes

comes from *England*, and they are both cover'd with Turf. However, in Gardens we ought to diſtinguiſh, and not to uſe the Word indifferently for all that is Graſs-work, or improperly for other Parts of a Garden, as for large Flats of Graſs that are in Groves, unleſs they are ſunk hollow; for 'tis nothing but the Sinking that makes it a Bowling-green, together with the Turf that covers it.

There are fine Bowling-greens at Choiſi.

A BOWLING-GREEN is one of the moſt agreeable Compartiments of a Garden, and, when 'tis rightly placed, nothing is more pleaſant to the Eye. Its hollow Figure cover'd with a beautiful Carpet of Turf very ſmooth, and of a lively green, moſt commonly encompaſſed with a Row of tall Trees, with Flower-bearing Shrubs, make a delightful Compoſition; beſides the Pleaſure it affords us, of lying along upon its ſloping Banks, in the Shade, during the hotteſt Weather.

THERE are two ſorts of Bowling-greens, Plain and Compoſed; the Plain are all Graſs, without any other Ornament; and the Compoſed are cut into Compartiments of Turf, mixt ſometimes with Embroidery; with Paths and Borders ſet off with Yews and flowering Shrubs. They are ſanded with various Colours, and accompanied with Figures and Vaſes of Stone, to heighten their natural Verdure. And in the Bottom may be made a Baſon, or Piece of Water, to give them the greater Enrichment.

THEIR right and moſt proper Situation is in a Place that is open and uncover'd, becauſe Bowling-greens are no Hindrance to the Proſpect; nevertheleſs, they may be placed in the middle of Groves, as may be ſeen in the different Examples of the following Plate.

THE Bowling-green repreſented in the firſt Figure, is of a much more conſiderable Extent than the others, and may be placed at the End of a large Parterre, or to fill up a great Space, that you would keep entirely open. 'Tis a long Square; the four diagonal Outlets of which are terminated by four round Green-plots, where are placed the Figures of the four Seaſons. The Corners of the Bank are hollowed out, to continue the Circular-walk round the Graſs-plots; and in the Bottom of the Bowling-green is made a large Compartiment of Turf, which differs ſufficiently from

the

the reſt. All the Walks are made by the Graſs only, there being neither Trees, Hedges, nor Wood, as in the other Deſigns that follow.

THE Bowling-green in the ſecond Figure is near a perfect Square, pierced in a Star, in the middle of which is a regular Octogone, that has in its hollow Bottom a circular Graſs-plot. It is ſet out with only one ſingle Line, or Edging of Box, about each Piece of Graſs, and a ſmall Sand-Alley between. The Corners of all the Graſs-plots are chamfered out differenly; and in thoſe of the Middle are planted ſixteen Yews, or round Heads of Box. This Bowling-green is accompanied with two great Double-walks planted with Horſe-Cheſnuts.

THE third Figure repreſents a Bowling-green pretty well furniſhed. 'Tis a great hollow Oval, in the middle of which is a Graſs-plot cut in Cants, to make a Diverſity. This Bowling-green is ſurrounded with high Trees, as Horſe-Cheſnuts, or Lime-Trees, planted regularly, without interrupting the View of the Walks and Seats, which ſhould always be taken care of. The Walk about it is octangular, formed by a Hedge breaſt-high, where there are Cabinets and Niches for Seats. Behind the Hedge are other Graſs-plots with a Sand-Path of three Foot wide between them, as well to preſerve the Hedge, and bound the Turf, as to make it beautiful to the Eye.

IN the fourth Figure is a Bowling-green executed in the middle of a Wood, where it does well enough, becauſe of the Opening that is made in it acroſs the arched Paliſade. 'Tis an irregular Octogone, whoſe hollow part is ſet off with an oval Graſs-plot, and encompaſſed with a Double-walk, parted by a Hedge pierced through with Arches, having Balls of Green left upon the Head of each Peer.

THE Bowling-greens of the ſecond Plate are much richer, more compoſed, and of greater Extent than the foregoing.

THE firſt Figure gives the Idea of a Bowling-green, the Head of which being canted off in ſeveral Forms that vary not amiſs, is adorned with a Buffet of Water backed againſt the Slope. It conſiſts of a Shell of Stone, or gilded Lead, out of which iſſues a Bubble of Water that falls again by a Sheet into the Baſon below, where there are two Spouts that accompany it. This Baſon is invironed with a Border of Stone-

work, to make a difference from the Turf. The Bottom of this Bowling-green is filled with two large Pieces of Graſs after the *Engliſh* Manner, ſurrounded with a Border ſet out with Yews and Shrubs, edged on the Inſide with the Turf, and on the Outſide with a Line of Box: Theſe Pieces are terminated with Scrolls at one end, and at the other by ſmall Rounds and Hollows, which, though plain, do well enough upon the Ground. This Deſign, and the following, require a pretty deal of room for putting them in execution.

IN the ſecond Figure you ſee a Bowling-green of the very richeſt kind; the Bottom is thrown into Compartiments of Graſs-work, cut and tied together by Knots and Cartoozes of Embroidery very delicate. The Middle is filled with a green Carpet, rounded off at the Ends, and environed like the reſt with a Sand-path edged with Box. The Beauty of all theſe Pieces is ſhewn by the different coloured Sands, which give them their Diſtinction; the Embroidery ſhould be filled with Smith's Duſt; the Paths round every part with red Sand; and all the Bottom with common Sand; which Mixture of Colours looks admirably well when ſeen from above. The two Ends of this Bowling-green are made with a Sweep inwards, and the Corners are canted off. Theſe Sweeps may be made to anſwer to the Center of a Baſon, for carrying the Walk round it; or to make this Piece yet more perfect and magnificent, a Baſon with a fine Figure in it may be made in the Place of the middle Graſs-plot.

THE Bowling-green of the third Figure is of a Form more ſquare than the others, and turned off differently upon the Corners: The Bottom is cut into four Pieces all alike, with an Oval, and two Rounds of Graſs in the middle; there are Paſſages that lead into the Walks which ſurround all theſe Parts. The Compartiment is plain, and ſanded with all the ſame Colour, but is infinitely heightened by the fine Figure in the middle, and by the four carved Vaſes ſet at the four Corners in the bottom. This may be ſanded with Red, in Countries where ſuch Earth is eaſy to be had; for otherwiſe, though it looks well, it is very coſtly.

AS to the fourth Figure, it is of a very particular Shape, and cannot be executed but in ſome certain Places. The Ends are made circular outwards, and are cut with divers Cants

and

and Returns. Its Middle is adorned with a Spout, in a ſmall Piece of Water bounded with a thin Edging of Stone, and a red Sand-path, to diſtinguiſh the Graſs. Of the ſix Pieces which inviron it, the two Extremes are Octogones, becauſe of the circular Walks that go round them. There are Figures placed on the four outer Corners, to vary from the four Vaſes which were ſet in the Bottom of the foregoing. You may judge of the Extent and Proportion of theſe different Parts by the Scale.

IN making Bowling-greens, you ſhould obſerve not to ſink them too deep. It is ſufficient to allow a Foot and a half Depth for ſmall Bowling-greens, and two Foot at moſt for great ones.

AS to the Banks and Slopes which inveſt Bowling-greens, that is, which form their Sinkings, they are allowed ſix or ſeven Foot length in the leſſer, and eight or nine Foot in the greater; and for the Bottoms in little Bowling-greens, we rake them all over, there not being room enough for Graſs-plots; but in great ones we make fine Compartiments of Graſs, and ſometimes of Cut-work: Then a raked Path of three or four Foot wide is left between the Slope and the Flat of Graſs, which ſerves to ſeparate and diſtinguiſh theſe Pieces each from other.

* *Fr.* Rampes, Tapis, *and* Pelouſes de Gazon.

There are a great many of theſe Aſcents at Meudon.

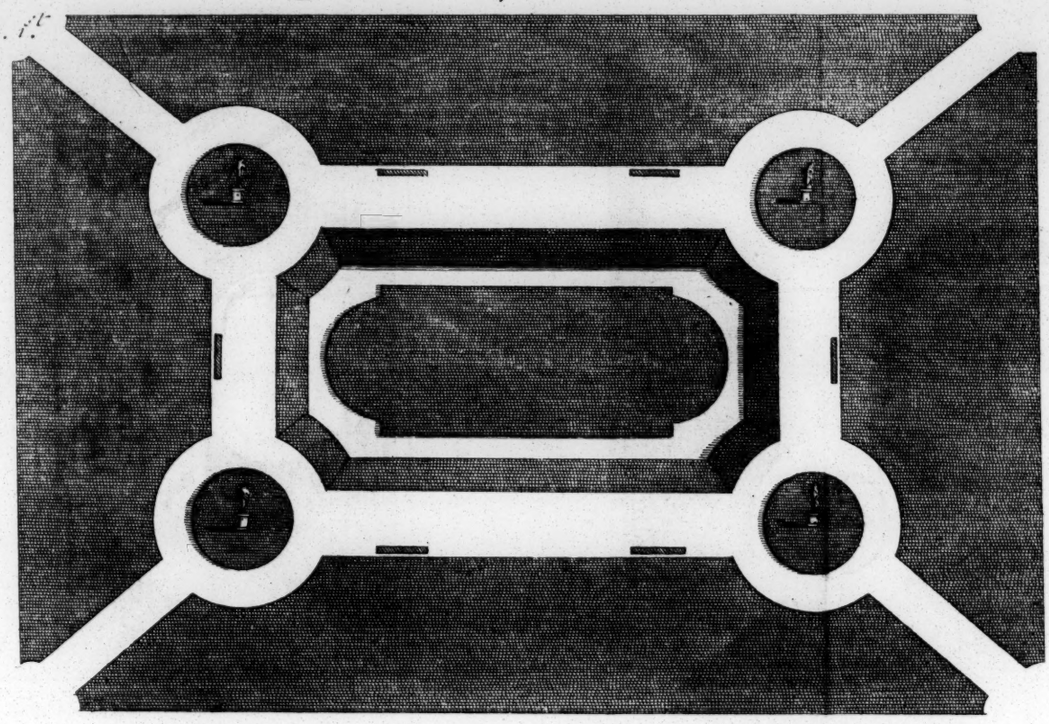
*ASCENTS, Beds, and Flats of Turf, differ but little from each other, unleſs it be the Aſcents, which are ſuppoſed to be large Graſs-plots upon a gentle Riſing, as thoſe along the ſide of a Caſcade, or that ſerve to reconcile the Inequality of two Pieces of Ground. For thoſe we call in *France*, *Tapis* and *Pelouſes*, are one and the ſame Thing, and generally denote all plain Quarters of Graſs, or Green-turf, without Cut-work: They are uſed in the Courts of Country-Houſes, in Groves and Bowling-greens, in Parterres after the *Engliſh* Manner, and in the middle of great Walks and Avenues, which, without them, would take up too much Time to rake and keep in Order.

THE *Talus* and *Glacis*, as we call them in *France*, are often confounded, and taken one for the other; nevertheleſs, there is a Difference between them, the *Talus* being more ſteep than the *Glacis*, which is ſuppoſed to be a very gentle Sloping, and almoſt imperceptible to the Eye. Let

us

A Bowling green of Grass work only

fig. 1st



A Bowling green with Edgings of Box

fig. 2d

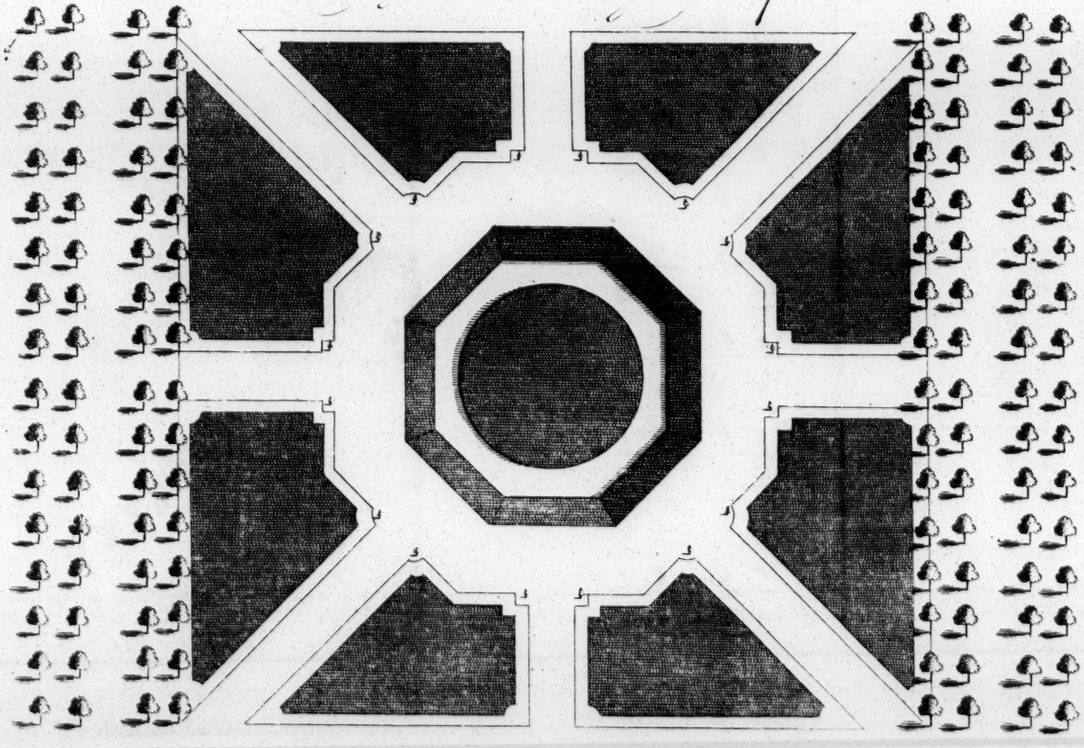
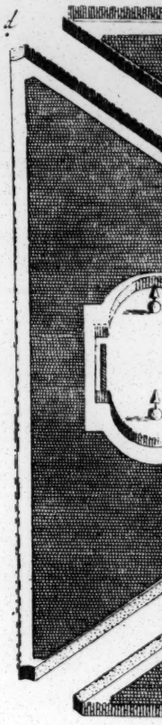


fig. 3d



A Bowlin

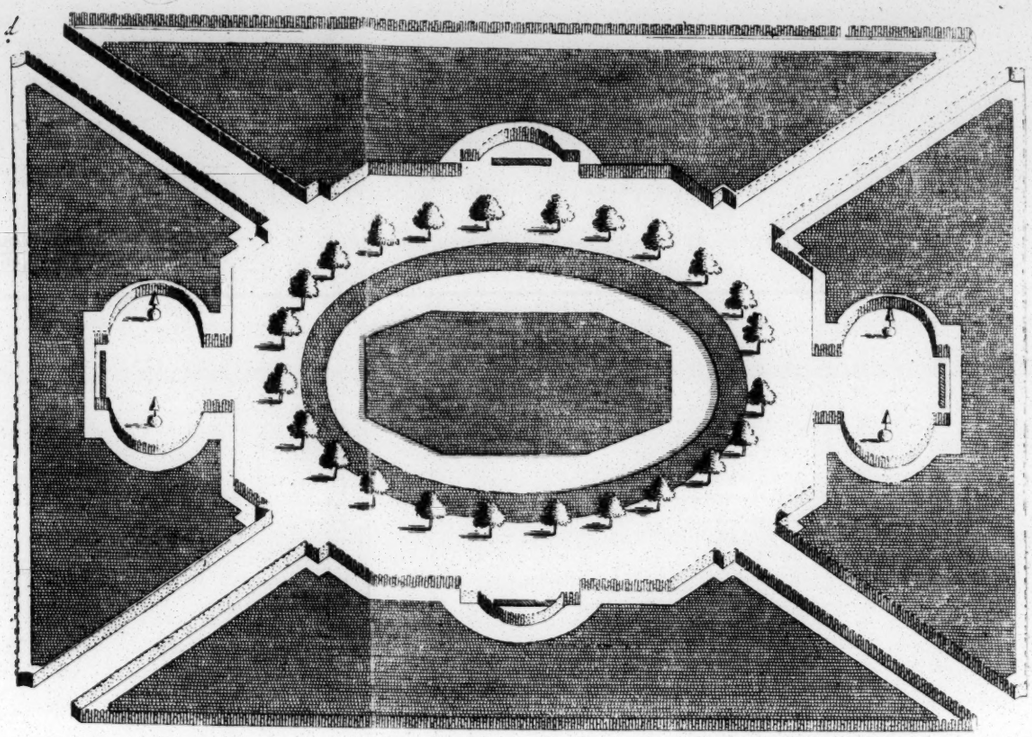
fig. 4th



Plate D. 1st

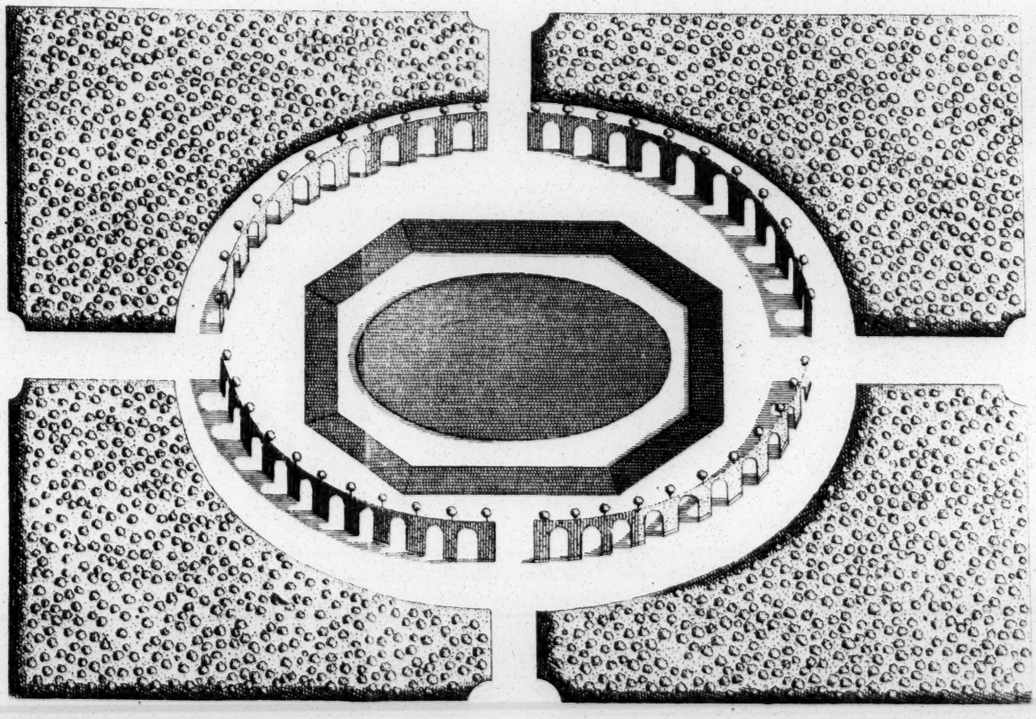
1 Bowling green invironed wth. Trees & adorned wth Cabinets & Paliŝades

No. 3^d



2. Bowling green in a Wood furrounded wth a Paliŝade cut into Arches.

No. 4th.

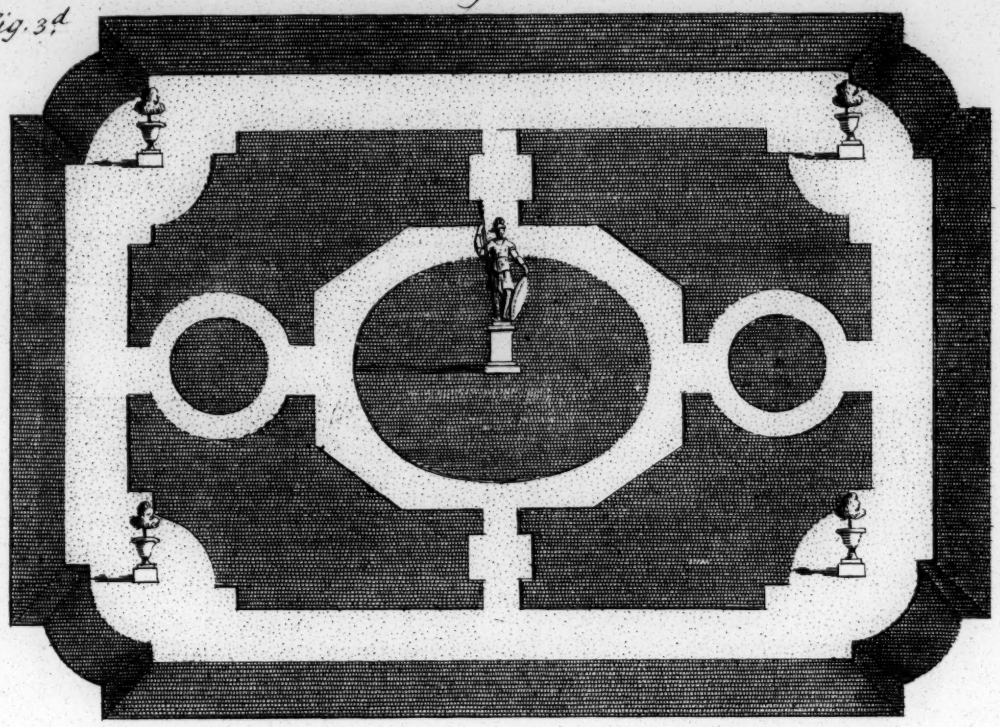


3° Fathom

M. A^dre Gucht Sculp^t

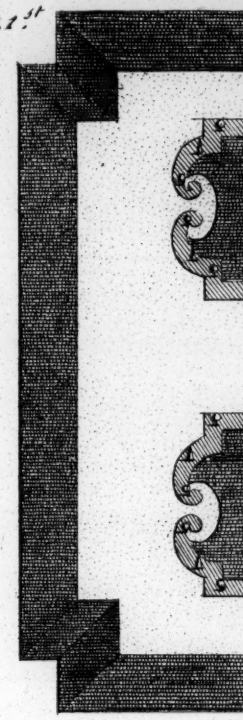
A Bowling Green of cut work with a Figure and Vaſes.

Fig. 3.d



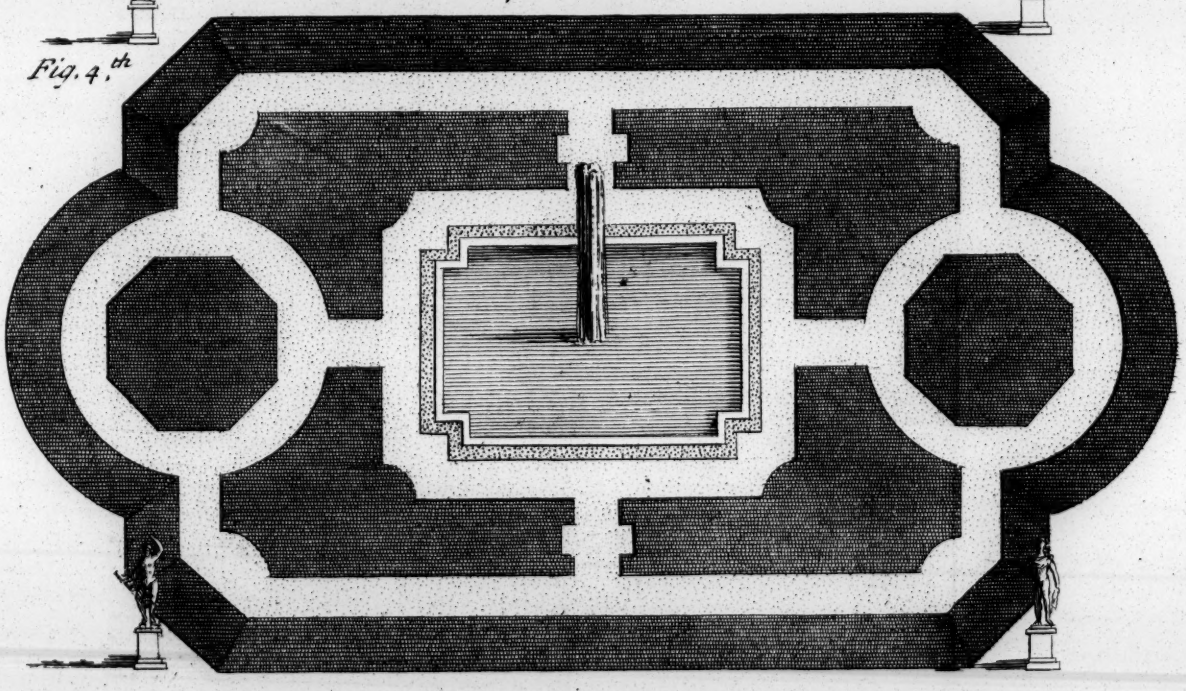
A Great Bo
and B

Fig. 1.st



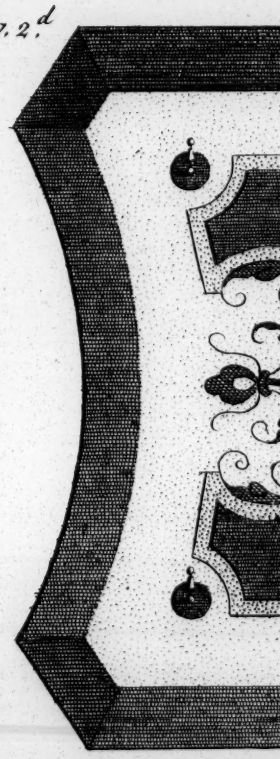
A Bowling Green of cut work with a Peice of Water.

Fig. 4.th



A great

Fig. 2.d

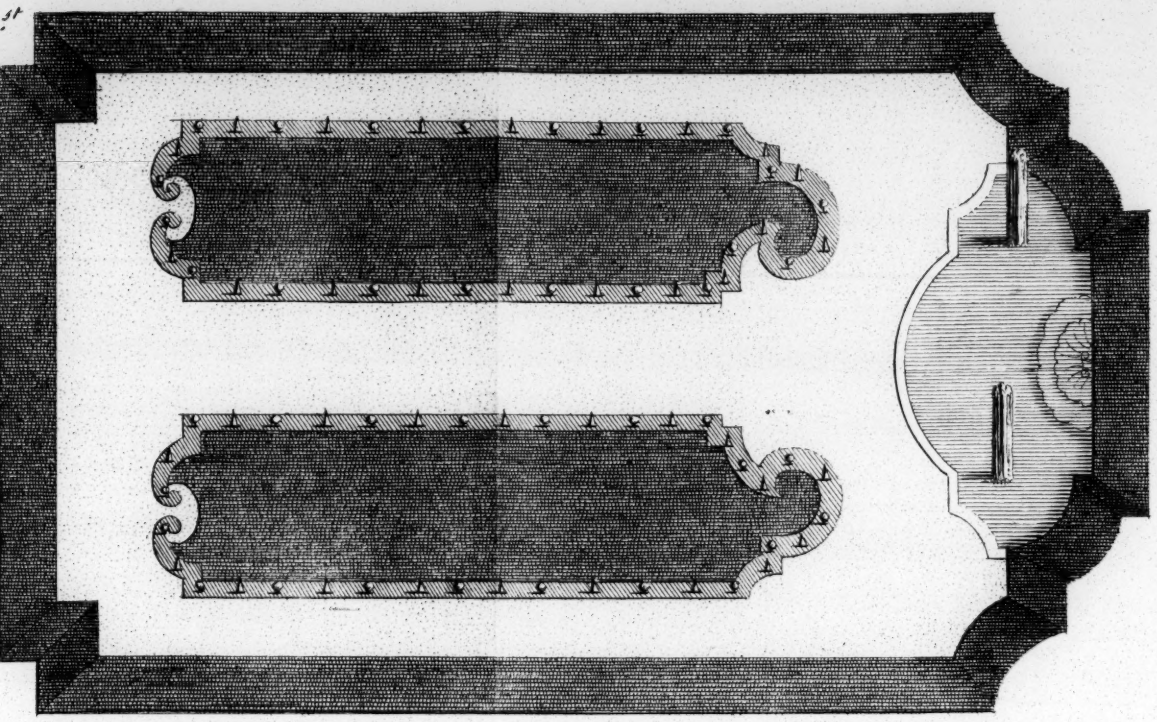


Fathom

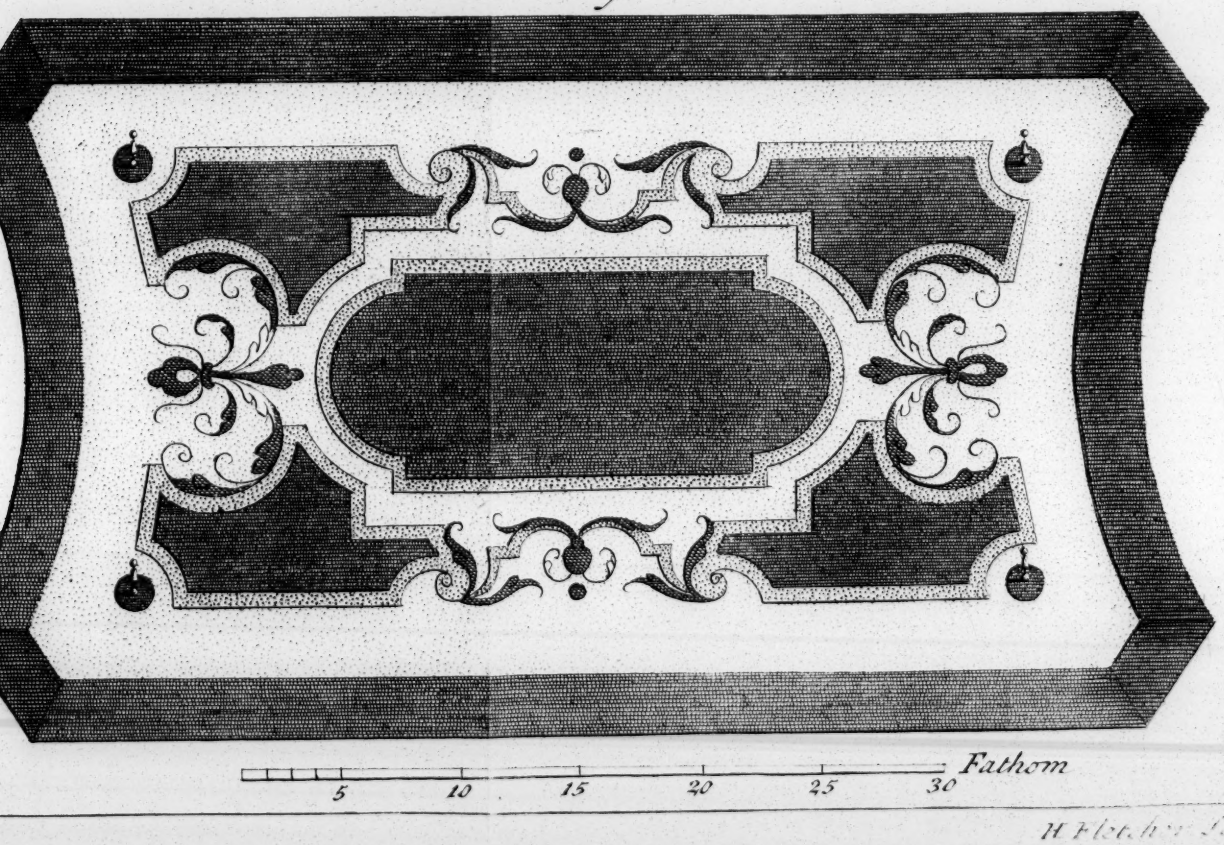
5 10 15 20

Plate. 2.d D

A Great Bowling Green adorn'd with a Buffet of Water and Borders with Shrubs and Flowers.



A great Bowling Green with Compartiments of Embrodery.



H Fletcher Sculp

us now come to the Manner of covering all theſe Parts with Graſs.

THE Manner of covering with Graſs, differs according to the Place 'tis to be uſed in; for a Graſs-quarter or Green-plot is cover'd after another Manner, than a Bank or Slope; the former is often ſown with Hay-ſeed, and the other is generally laid with Green-turf.

TO ſow Graſs, the Ground muſt be firſt dug, or broke up with an Iron-ſpade, and being afterwards dreſſed and laid even, let it be raked over with a fine Rake, removing all the Clods and Stones you meet with, and ſtrowing on the Top of it one Inch or two in thickneſs of good Mold, to facilitate the Growth of the Seed. The Place being thus prepared, ſow your Seed on it very thick, that it may come up as cloſe and ſhort as may be; then paſs the Rake over it again, to bury and cover the Seed a little, which ſhould not be ſown in windy Weather, leſt it be blown away; on the contrary, you ſhould chuſe a mild Day, rather inclin'd to wet, that the Rain forcing down the Earth, and ſinking the Seed, may cauſe it to ſhoot up the ſooner.

THE beſt Seaſon for ſowing is the end of Autumn, Seed in its own Nature requiring nothing but Moiſture to make it grow, which it cannot fail of in this Seaſon, nor all the Winter long. When you ſtay to the end of *February*, or the beginning of *March*, before you ſow your Seed, you run a Risk of not ſeeing your Quarters green ſo ſoon, if the Summer proves any thing dry, as it often happens, unleſs you take care to give them continual Waterings, or rather to lay them under Water, which is a very great Slavery and Expence.

ALL the Difficulty of making a fine Green-plot by ſowing it, lies in getting good Seed, which ought to be carefully examin'd before 'tis ſown. What they make uſe of in *France*, is the Seed of fine *Dutch* Clover-graſs or Treſoil, Hay-ſeed of low Meadows, Sainfoin, Catmint, and that of fine ſmall Graſs, reſembling Civet. There are alſo abundance of other Seeds for this Purpoſe, whoſe Names are unknown, and in which one is often deceiv'd.

In England *we ſow only Hay-ſeed of the fineſt Upland Paſtures, well cleanſed and ſifted,*

YOU ſhould not do, as many, that will gather their Seed from ſome Hay-loft, and ſow it without Diſtinction, hoping

by that means to make a fine Graſs-plot; in this they are greatly miſtaken, for the Seed ſhooting too high, and making large Stalks, the lower Part remains naked and bare, and mow it as often as you will, will never make handſome Graſs; but, on the contrary, come to nothing but Tufts of Weeds, very little better than that of the common Fields.

As to the Manner of laying Turf, you ſhould, in the firſt place, make choice of the beſt in the Country, either from Road-ſides, or the Edges of Paſtures and Meadows where Sheep and Cows feed; for in theſe Places, generally, the Graſs is fineſt, and browzed ſhorteſt. In the Choice of it, Care ſhould be taken that you avoid Quich-graſs, and other Weeds, and that the Earth have ſomething of a Body. * This Turf we raiſe with a Spade, cutting it into Squares about a Foot every way, and two or three Inches thick, which is enough to carry them without breaking.

* *In* England *our Turf is raiſed, with a Raiſing-knife for that Purpoſe, in Squares of* 3 *Foot long, and* 12 *or* 14 *Inches broad.*

To lay the Turf upon the Work, you muſt ſtrain the Line along the ſtrait Parts, and follow the Trace in the circular and ſmall curious Deſigns, as the Shell-work, Scrolls, and Knots of Parterres. The Line being ſtrained, you are to dig and clear away the Earth, to receive the thickneſs of your Turf, that it may lie level with the Ground, which is the great Beauty of it: The Manner of ſome who lay their Turf upon the Surface, without taking away the Earth, is to be avoided; for this raiſes it too much, and lays bare the Roots of it. You are to trim the Squares of Turf to the Line, or Trace, as your Deſign is, with a Knife, laying them in Order, as cloſe to one another as poſſible, and afterwards beating them with a wooden Beater, till they lie very flat and level with the reſt of the Ground. You can ſcarce beat and ſink the Turf too much, indeed, the Graſs being always naturally diſpoſed to raiſe itſelf ſufficiently in growing. Where the Squares of Graſs do not join well together, you muſt fill in a little Earth, and then ſtop the Holes and Chinks with ſmall Pieces of Turf, which will make the Green-plot as even and handſome, as though it had grown in the very Place.

You muſt obſerve to water the Turf well, as ſoon as 'tis laid, that uniting itſelf the ſooner with the Ground on which

it

it lies, it may take Root, and not have time to dry and turn yellow, as is to be feared, if you fail to water it.

THE ſureſt way to have a handſome Graſs-plot, ſmooth, and well cover'd, is to lay it with Turf, which is always better than ſowing; but when you have very large Green-plots to make, as it would be an endleſs Charge to lay them all over with Turf, you muſt be content to ſow them with the beſt Seed you can get; and becauſe it is very troubleſome to bound them to any Exactneſs by ſowing, you may edge the Sides and Extremities with ſquare Turfs laid by the Line, and ſow the Inner-part with Hay-ſeed.

IF you would not be at the Expence of laying the Edges of a Graſs-plot with Turf, you muſt then ſow a good deal of Seed in the Track of the Out-line, that it may be the ſooner and better diſtinguiſh'd. As for ſmall Pieces of Graſs-work, as the Knots, Shells, and Volutes of Parterres, Cut-work, Verges about Baſons, *&c.* they muſt be ever laid with Turf, which is much the handſomer, is more neatly performed, and better kept.

WHEN you would new-lay ſome Shell, or Scroll, the Turf of which is ſpoil'd, you muſt drive ſmall Pegs or Stakes upon the Out-lines, to mark out, as well as is poſſible, the antient Track of it; and then take off the bad Graſs. When the Place is well cleanſed, and made fit to receive your Turf, lay it on, and cut it away as the Pegs of your Shell, *&c.* direct, and you will have it neatly covered again.

*BANKS and Slopes are much more difficult to cover with Turf, than Aſcents, Quarters, and Flats of Graſs, in that the Turf muſt be laid ſo that it does not ſlide, and that the Slope-line be kept without Elbows and Inequalities. * *Fr.* Talus *and* Glacis.

BANKS and Slopes that are not ſo conſiderable for their Height, as five or ſix Foot, ſuch as thoſe made for ſmall Terraſſes, and the Sinkings of Bowling-greens, are the moſt eaſy to cover, there being no more to be done in them, than to lay on the Squares of Turf, according to the Rules I have juſt now deliver'd.

YOU ſcarce ever ſow Banks and Slopes, becauſe the Graſs comes not up ſo well on them, as on Flat-works: However, if you have a mind to ſow them, you ſhould lay a

Verge, or Border, at the Head and at Foot, with Squares of Turf, which will keep up the Earth, and hinder it from ſliding; and then ſow the middle very thick, that the Graſs may not come up in Knots and Cluſters.

FOR great Banks and Slopes, as thoſe from fifteen to twenty Foot high, they require more Circumſpection in the Method of lining them with Turf, for fear they ſhould ſlide. Theſe are made with Beds of Earth and Watled-work, as ſhall be explain'd hereafter.

THE Turf made uſe of for this Purpoſe, ſhould be raiſed in the Shape of a Wedge, and not of equal Thickneſs, as that with which you cover common Quarters; we call this, * Turf with a Point or Tail. This Point, which is left on the Lower-part, ſerves to bed it in its Place, and to keep it from ſliding. You lay this Turf along the Line, ſtrained according to the Work, ſo that one end of it touch the Line, and the other the Hurdles, or Watled-work, obſerving, according to † ſome, to turn the Graſs-ſide undermoſt, which is proper only in Fortifications; and not in the Slopes of Gardens, on which the Turf is always laid with the Graſs uppermoſt, bedding it according to the Slope-line with the Precaution, for fear the Turf ſhould ſlide, to peg it all with good Pegs of Oak, or Alder, to keep it in its Place till it has taken Root.

* Gazon à queuë.

† Marolois. Rohault. Ozanam.

QUARTERS and Slopes of Graſs make one of the principal Beauties of a Garden, when they are well kept, which is all the Difficulty; for when the Seed is well come up, and the Graſs very thick, or that the Turf be recover'd, and of a beautiful Green, this Perfection will change in a ſhort time, if care be not taken to keep it well.

THIS Keeping conſiſts in mowing the Graſs often, not four times a Year, as ſome || Authors mention, but, at leaſt, once a Month. In ſome Places they mow it every Fortnight, the Graſs growing thicker, and looking handſomer the oftner it is cut. It ought to be ſo cloſe and even, that no one Blade, if I may ſo ſpeak, ſhould exceed another. You muſt likewiſe, from Time to Time, cut and pare away the outer Edge of the Graſs according to the Line, in which lies all its Neatneſs; for without this, it will often exceed its Bounds, and

|| Furetiere. Daviler. *Dictionary of the* French *Academy*.

and run into the Walks, which would ſpoil the Form and Deſign of the Compartiments.

THE Way they keep their Graſs in *England*, is to mow it very often, and to beat it when it is too high, rolling the Surface of it with great Cylinders, or Rolls of Wood or Stone, to ſink and level it as much as poſſible. You can't do better than to follow this Method uſed in *England*, where their Graſs-plots are of ſo exquiſite a Beauty, that in *France* we can ſcarce ever come up to it. Sorbiere's *Voyage to* England, *p.* 17.

IT may be truly ſaid, that if handſome Graſs-plots are great Ornaments in a Garden, they are ſuch too as require the greateſt Care of the Gardener, who ought to be almoſt conſtantly attending them; but, after all, 'tis a thing indiſpenſably neceſſary, for if they are neglected, the Graſs growing up in Tufts, will no longer form ſmooth and even Quarters, but will run into Quich-graſs and Weeds, which you muſt entirely deſtroy, and lay or ſow them anew. You have then no other way to avoid the Inconveniency of changing your Graſs every two or three Years, but by the great Care you take to keep it well.

SOME Perſons pretend, that to have Green-plots always handſome and in good Order, you ſhould every Year, in Autumn, lightly ſtrow ſome Seed upon them to renew them, and furniſh the Places that are not well filled, or where the Graſs is dead; and this Method may be very good, provided a good Choice be made of the Seed you ſow.



CHAP.

CHAP. VIII.

Of Porticos, Bowers, and Cabinets of Lattice-work and of Verdure, Figures, Vaſes and other Ornaments, ſerving to the Decoration and Embeliſhment of Gardens.

ALTHOUGH I have juſt now ſpoke, in general, of all the Parts that conſtitute a fine Garden, I ought not, however, to omit ſaying ſomewhat alſo of what ſerves to its Decoration and Embeliſhment. In this I ſhall be very circumſpect, being unwilling, here, to propoſe Examples out of the Reach of private Perſons, who might poſſibly find Difficulties that would hinder the Execution of them. The Charges I am now going to ſpeak of, demand a Royal Purſe, and are to be undertaken only by Princes, Miniſters of State, and Perſons of the higheſt Quality.

* Treillage.

'TIS not ſo much the Faſhion at preſent, to make Porticos, Arbors, and Cabinets of * Lattice-work, in Gardens, yet they ought ſtill to be made in ſome Places; and 'tis certain, theſe Pieces of Architecture, well diſpoſed, have ſomething in them very beautiful and magnificent; they raiſe and improve the natural Beauty of Gardens extremely; but as they are very chargeable to make and keep up, and continually liable to decay, moſt People are out of Conceit with them.

As at the Hôtel de Condé, *and that of* Louvois.

THERE have been Works of this Kind done in ſome Gardens formerly, that coſt at leaſt twenty thouſand Crowns, which are now almoſt entirely ruin'd, there being nothing but the Abundance of Iron-work that can keep them up any conſiderable Time.

ARBORS or Porticos are diſtinguiſh'd into two Sorts, Artificial and Natural.

ARTIFICIAL-ARBORS and Cabinets are made wholly of Lattice-work, ſupported by Standards, Croſs-rails, Circles, Arches, and Bars of Iron. For this Purpoſe they make uſe of Fillets of Oak, ſomewhat more than an Inch ſquare every way, which being well plained and made ſtrait, are wrought into Checkers of ſix or ſeven Inches ſquare, and faſten'd together with Iron-Wire. They make uſe likewiſe of Wainſcot for the Moldings and Ornaments of Cornices, and of Timber for large Plinths and Facias.

WITH this Wood and Iron are compoſed Arbors, Porticos, Galleries, Cabinets, Summer-Houſes, Salons, Niches, and Shells, adorn'd with Columns, Pilaſters, Cornices, Pedaments, Jambs, Pannels, Vaſes, Corbels, Frontiſpieces, Domes, Lanterns, and other Ornaments of Architecture; in all which Deſigns, a juſt Proportion ought to be obſerved, and every Part of the Ordonance ſhould be regulated and determin'd by a Module, as though it were a Building.

'TIS to be obſerved, that the richeſt Ornaments are not the moſt proper for Lattice-work, becauſe they are too difficult to be executed in Wood; there are ſome that are more peculiarly appropriated to them, which do exceeding well in Work. Columns are generally left out in this Buſineſs, and Pilaſters made uſe of in their ſtead, or elſe, Upright Peers with Pannels. The *Ionick* Order is the moſt ſuitable to Works of this Kind, and the moſt eaſy to be put in Execution.

There are Ionick *Columns, in a Cabinet of Lattice-work at* Clagny, *that are pretty enough.*

AN Arbor is diſtinguiſh'd from a Cabinet or Summer-Houſe, in that the former is of a great Length, arched over Head in form of a Gallery; and the latter is of a Figure either ſquare, circular, or in Cants, making a kind of Salon fit to be ſet at the two Ends, or in the Middle of a long Arbor.

A PORTICO is ſtill different from all this; being the Entrance in Front of a Summer-Houſe, Salon, or Arbor of Lattice-work, and is generally adorn'd with a handſome Cornice and Frontiſpiece, ſupported by Pilaſters or Peers; or elſe it is a long Decoration of Architecture placed againſt

a Wall, or at the Entrance of a Wood, where the Advances and Returns are but inconſiderable.

ARBORS, Cabinets, and Porticos of Lattice-work, are commonly made uſe of to terminate a Garden in the City, and to ſhut out the Sight of Walls, and other diſagreeable Objects; this Kind of Decoration making a handſome Sight, may alſo ſerve very well to cloſe the End of a long Walk. They are likewiſe uſed in Groves, Sinkings, and the Niches of Hedges, where Seats and Figures are to be ſet, and are often cover'd with Roſe-Trees, Jaſmins, Hony-ſuckles, and Virgin-vines, for the Conveniency of Shade.

ABOVE all, a Portico, or Arbor of Lattice-work, ſhould have a handſome Frontiſpiece at Top, that Part being the moſt remarkable: Of this you have ſeveral Examples in the following Plate, which contains all the ſeveral Sorts of Lattice-work, and the moſt agreeable Ornaments that can be given them.

THE firſt Figure is the moſt magnificent, and compounded of all: 'Tis a large Portico of Trellis of the *Ionick* Order, conſiſting of ſeveral Coupled Pilaſters, which ſuſtain a handſome Cornice, with a ſmall Plinth at Top of it, in manner of an *Attick*, adorn'd with Vaſes ſet perpendicularly over each Pilaſter. In the Middle is a great Receſs or Sinking, crown'd with an Arch, which has the ſame Cornice and Ornament of Borders continued round it. The lower Part of this Sinking is filled with a Baſon that poſſeſſes the whole Breadth of it, out of which riſes a Water-ſpout of ſix or ſeven Foot high, between two ſmall Figures that lie upon Scrolls, ſet upon a high Step or Plinth, from whence the Water falling, makes a circular Sheet, that is alſo accompanied with two other Spouts on the Sides. At the two Extremities of this Portico are two circular Niches, each of them filled with a Salver of Water ſet upon a Stand, which is adorned with three Mask-heads, that throw the Water into the Baſon below. All this Trellis is beautified with Rounds, Lozenges, Moldings, Fillets, and other very rich Ornaments, the Proportion of which may be found by the Scale. I ſhould have given you the Plan of this, would the Size of the Plate have permitted. This Portico would ſerve very well at the Bottom of a City-Garden, or at the End of a great Walk, where

it

it would make a fine Perſpective, the two Niches at the Ends being made to face the Counter-walks.

THE Portico repreſented in the ſecond Figure is leſs conſiderable, both in its Extent and Ornaments, having no Order of Architecture in it; notwithſtanding which, it will look very well, when executed. It would be proper at the lower End of a Garden, or of a great Walk, placing a Seat in the Sinking of it; or, if you will, it may ſerve for the Entrance of a Wood, opening the middle Arch, as you ſee in one Half of the Deſign. This Portico conſiſts only of upright Jambs, or Peers, and Pannels of Lattice, with the ſame Cornice as that of the great Portico before deſcrib'd. Its Frontiſpiece is a great Arch, with a triangular Pedament over it, which is ſupported at the Ends by Spandrels and Scrolls; it is ſet off below with two Stands, or Pedeſtals, that carry Buſts. The Scale of the great Portico is common to both, and will inform you in what you require farther.

IN the third Figure is a Cabinet, or Summer-Houſe of Lattice-work, proper to be ſet in a Grove, or at the End of an open Walk. Its Figure in Cants, is of a Deſign ſomewhat particular. 'Tis ornamented with plain Pannels, and a circular Pedament; over which riſes a Cap in Cants alſo, which carries a Lantern open at the Top, as the Tympan of the Pedament is in Front.

THE fourth Figure is a great circular Niche very rich throughout, its Jambs being full of Ornaments, and crown'd with a fine arched Cornice, which encompaſſes a Shell formed by ſeveral Ribs. The Hollow of the Niche is filled with a Buffet of Water, conſiſting of a Vaſe, or great Salver, the Cup of which reſts upon Scrolls made by Dolphins-Tails, and the Water falls again by two Sheets into the Baſon below. This Niche would do very well in a Wood, or at the End of ſome Walk, where the Proſpect can be continu'd no farther.

THE Salon in the fifth Figure ſerves for a Portico and Entrance to a long Arbor, in which 'tis ſuppoſed to ſtand. It is very plain in its Ornaments, conſiſting of no more than two Jambs, with an Arch adorn'd with Impoſts, and a circular Kind of Architrave; the whole crown'd with a trian-

gular Pedament, upon which riſes a Dome arched over, and open at Top.

I THINK it needleſs to give you here any Deſigns of Cabinets of Trellis-work altogether plain, and without Ornament; becauſe, if you have a mind to make ſuch, and would ſet them off with a Cornice or handſome Frontiſpiece, you may eaſily pick them out of the foregoing Deſigns, and place them as Occaſion requires.

NATURAL or green Arbors are formed only of the Branches of Trees artfully interwoven and fixed one to another with Iron Wire; they are ſupported by large Battens, Hoops and Poles which compoſe Gallerys, Porticos, Arbors, Cabinets, Halls, Colonades, Niches and Viſtas all naturally covered without ſhewing any of the wooden Work. Their place is the ſame as that of the Artificial Arbors or Lattice-work before ſpoken of. The Examples here produced are thoſe that are executed at *Marly*, and ſome other Gardens: For I was unwilling to give any thing of my own Fancy in this place, as I ſaid before in the Caſe of extraordinary Hedges; theſe better demonſtrating the Poſſibility of ſuch Works. It is certain that theſe Arbors, Porticos, and Colonades will ſeem even more impracticable than Hedges cut into Arcades; a Column of Horn-beam is a Maſter-piece and a kind of Miracle in the Buſineſs of Gardening, it is ſo very rare.

THE firſt Figure repreſents the green Colonade in the Gardens of *Marly*, at the Bottom of the firſt Terraſs, as you go down from the Houſe towards the great Piece of Water; it borders a green Hall, which is wholly covered and kept cut at Top becauſe it is in Sight; here was formerly the Baſon for Carp: This Colonade runs firſt in a ſtreight Line, and then returns in part of a Circle on both ſides the Terraſs. The Symmetry and Proſpect of it are very ſurprizing and worthy of Admiration. The Columns are about ten foot high and three foot in Compaſs, including a foot at each End for the Baſes, Capitals and Fillets which they have. The Plinth or Pedeſtal is a foot and a half in Height, and the Cornice is one foot. There is an Advance or Break of three Inches made in the Pedeſtal and in the Cornice or Facia over every Column, and directly at top are Vaſes cut of a very particular Figure. For Faſtening each Column to the Grove, there are

Croſs-

Croſs-pieces like Beams of green, cut ſquare; this is ſo wonderful, there is no conceiving it aright without ſeeing it.

THE ſecond Figure ſhews another Piece of theſe inchanting Gardens, namely the Porticos, Arbors and green Gallerys which run all along the Wings of the great piece of Water anſwering the twelve Pavilions, between which and the Bowling Alley theſe Porticos are placed; nothing is more ingenious or more artfully executed. There are two Rows of Trees which form an Arbor or Gallery, ſet in Borders, and between they are imbeliſh'd with Yews and Flowers of the Seaſon. The Bodys of the Trees are naked about ſix foot high, and are then furniſhed with Leaves upwards, which form an upright Stem or Pilaſter, to the Springing of the Arches which are turned over head, and between every Arch is left a Stem, which bears a ſmall Vaſe. That which is very fine here, is, that the green Arches croſs one another in theſe Arbors, and make their ſquare Returns without any Confuſion, and the Whole forms a very long green Vault. Theſe Arches and Uprights are of no great Thickneſs, and are very delicately kept: 'tis indeed very ſtrange, that they ſhould be able to keep Elms in ſo good a State, ſo long. The open Spaces over head contribute to give Air under theſe Arbors, and to make the Trees ſtand ſo well under that Force and Conſtraint they are always kept in.

IN the third Figure you ſee a Portico or Ornament of Architecture in Green, the Execution of which ſeems at firſt ſomewhat extraordinary, having no viſible Support of Timberwork in it. It is ſet at the End of a great double Walk to terminate the Sight more agreeably; in the Middle is a great circular Niche with a Seat, which faces the great Walk, and againſt each of the Counter-walks are ſquare Sinkings with Figures upon Pedeſtals. To accompany this Niche and Sinkings, are made four Advances, containing eight green Columns, which ſtand detached from the Hedge behind them. The Columns ſtand upon Plinths, and have their Plinths and Baſes cut out in Green, as likewiſe their Fillets and Capitals at head, which bear a Cornice that runs over all, making a break over each Duplicate of Columns, and forming a triangular Frontiſpiece or Pedament over the great Niche in the Middle. This Deſign is crowned with an Attick, which fol-

lows the Cornice in its Advances over the Pillars; and upon this are raiſed round Balls of Green, directly over the Shafts. The Figures, Pedeſtals and Seats are of Stone, to make a Variety.

THE Portico of the fourth Figure is circular, and is filled in the Middle with a great Baſon; it is much like the Porticos at *Marly*, ſaving that they do not return nor croſs one another diagonally, but are in one ſingle Range: what is particular in theſe, are the little Caſes or Boxes at foot, out of which riſe the Stems of the Trees, between which there are clipt Yews. Theſe Porticos have a green Ground or Hedge behind them, as in the Colonade of *Marly*. The Cabinet in the Middle is very new in its kind, it lies directly in the Line of the great Walk, and centers upon the Water-Spout, and there might be made three others which with this would croſs the Baſon at right Angles. The Figure of it is ſquare, one Face of it joining with the Sweep of the Porticos, and the others with that of the Hedge behind them, ſo that the circular Walk runs under it: from the four Corner Peers, the green Arches riſe and croſs over both ſquare and diagonally, leaving Spaces between them for Air, as in thoſe of *Marly*. The inner Decoration of this Front conſiſts of two large Peers of Green ſet upon Plinths, crowned with a chamfered Cornice, which makes an Arch over the middle. Upon each Peer is a large Ball or Vaſe cut, and below they are enriched with two great carved Vaſes, ſet upon Stone Pedeſtals to heighten a little this ruſtick Architecture.

LET us now proceed to other Ornaments, that contribute to the Decoration and Embeliſhment of Gardens; and not to mention thoſe of Verdure, as Hedges cut into Arches, Halls for Comedy and Ball, Green-Gallerys of which you have Deſigns above, nor ſuch as Amphitheatres, Banks, Counter-Terraſſes and Steps of Turf, which you'll find hereafter; which are indeed the moſt eſſential Ornaments, as they add a Value to all the reſt: I ſhall here ſpeak of ſuch only as are Acceſſory or Additional, as theſe that follow.

FOUNTAINS, next to Plants, make the principal Ornament of Gardens: 'Tis theſe that ſeem to animate them, by the murmuring and ſpouting of their Waters, and produce thoſe admirable Beauties, that the Eye is ſcarce ever ſatisfied with

with beholding them. They are conſtantly ſet in the moſt advantageous Places, and where they may be beſt ſeen from all Parts. If there be any ſloping Ground in the Garden, you may there make Caſcades and Buffets of Water, continued by ſeveral Falls, accompanied with Spouts and Jet-d'eaux; and, where Water is plenty, Ponds and Canals may be made, which are moſt delightful Pieces in a Garden. Upon theſe Canals you may have ſmall gilt Gondolas and Pleaſure-Boats; and they ſhould be very well ſtock'd with Fiſh, for the Diverſion of Fiſhing in them. To add ſtill farther to this Ornament of Water, Swans, Geeſe, and Ducks of different Kinds and Colours, are a very agreeable Sight. Fountains are uſually adorn'd with a Ruſtick Order of Architecture, enriched with Maritime Ornaments, and Figures, proper to the Water.

TERRASSES, when rightly ſituated, are likewiſe of great Ornament in Gardens, for their Regularity and Opening; eſpecially when they are well built, and beautified with handſome Stairs, and fine Aſcents. Sometimes there are made under them, Vaults, Grots, Caſcades, and Buffets of Water, with an Order of Architecture, and a great many Statues in Niches: and on the Coping above, are ſet Vaſes and Flower-pots, orderly ranged and diſpoſed.

There is no Garden has ſo fine Terraſſes as that of Meudon.

GREEN-HOUSES or Orangerys are large Piles of Building like Gallerys, which by their Fronts, add to the Beauty of Gardens; beſides that they are of abſolute Neceſſity to be built, for preſerving Orange-Trees, and other Plants, in Caſes, during the Winter; on which account they require a South Aſpect, but ſtill with Caution that they be placed ſo as not to injure the Proſpect. They may ſerve as a Gallery in the Summer, to walk in when it rains. † They are ſometimes made under a vaulted Terraſs, where the Peers and Arches make a handſome Decoration enough at a Diſtance.

† *As the Orangery of* Meudon

STATUES and Vaſes contribute very much to the Embelliſhment and Magnificence of Gardens, and extremely advance the natural Beauties of them. They are made of ſeveral Forms, and different Materials; the richeſt are thoſe of Caſt-Braſs, Lead gilt, and Marble; the ordinary Sort are of Iron, Stone, or Stucco. Figures may be diſtinguiſh'd into Groups, which

which conſiſt at leaſt of two Figures together in the ſame Block; Figures Inſulate, or Detached, that is thoſe that you may go quite round; and Figures that are ſet in Niches, which are finiſh'd on the Fore-part only: There are, likewiſe, Buſts, Terms, Half-length Figures; Figures half as big as the Life, and thoſe bigger than the Life, called *Coloſſal*, placed either on regular Pedeſtals, or ſuch as are ſlender, tapering, or hollowed, or on flat Plinths; not to mention the Figures of Animals, which ſometimes adorn Caſcades; as do alſo Baſs-Relievos, and Mask-heads.

THESE Figures repreſent all the ſeveral Deities, and illuſtrious Perſons of Antiquity, which ſhould be placed properly in Gardens, ſetting the River-Gods, as the *Naiades*, *Rivers*, and *Tritons*, in the Middle of Fountains and Baſons; and thoſe of the Woods, as *Sylvanes*, *Faunes*, and *Dryads*, in the Groves: Sacrifices, Bacchanals, and Childrens Sports, are likewiſe repreſented in Baſs-Relievo, upon the Vaſes and Pedeſtals, which may be adorn'd with Feſtoons, Foliage, Moldings, and other Ornaments.

THE uſual Places for Figures and Vaſes are along the Hedges, in the Front, and upon the Sides of a Parterre; in the Niches and Sinkings of Horn-beam, or of Lattice-work made for that Purpoſe. In Groves, they are placed in the Center of a Star, or St. *Andrew*'s Croſs; in the Spaces between the Walks of a Gooſe-foot, in the Middle of Halls and Cabinets among the Trees and Arches of a Green-Gallery, and at the Head of a Row of Trees, or detached Hedges. They are alſo placed at the lower End of Walks and Viſtas, to ſet them off the better; in Porticos, and Arbors of Trelliswork; in Baſons, Caſcades, *&c.* In general, they do well every where; and you can ſcarce have too many of them in a Garden: But, as in the Buſineſs of Sculpture, it ſhould be excellent, as well as in Painting and Poeſy, I think it more adviſable for a private Gentleman to be content without Figures, than to take up with ſuch as are indifferent, which do but create a continual Longing after this Perfection; the Expence of which is fit only for Princes and Miniſters of State.

THE Ends and Extremities of a Park are beautified with Pavilions of Maſonry, which the *French* call *Belvederes*, or Pavilions of *Aurora*, which are as pleaſant to reſt one's ſelf in, after a long Walk, as they are to the Eye, for the handſome Figure they make at a diſtance; they ſerve alſo to retire into for Shelter when it rains. The Word *Belvedere* is *Italian*, and ſignifies a beauteous Proſpect, which is properly given to theſe Pavilions; for that being always built upon ſome Eminence, they open and command the Country round about.

There are alſo Belvederes *all of Turf in the upper Gardens of* Marly, *and in the Wood of* Ecoüan.

PERSPECTIVES and Grottos are now but little in uſe; eſpecially Grottos, which are very ſubject to Ruin. They are commonly made at the End of Walks, and under Terraſſes. As to Perſpectives, they are of uſe to cover the Walls of Gable-ends, and ſuch Walls as terminate Walks that can be pierced no farther. They make a handſome Decoration enough, and their fallacious Openings are very ſurprizing. They are painted either in Oil, or in Freſco, and are ſecured above by a ſmall Roofing, which throws off the Rain-Water that would otherwiſe run along the Wall, and quite ſpoil the Painting.

The Perſpective at Ruel *was ſo well painted that the Birds would be ready to break their heads againſt the Wall attempting to go through the Arch where the Sky was painted.*

GRILLS of Iron are very neceſſary Ornaments in the Lines of Walks, to extend the View, and to ſhew the Country to advantage. At preſent we frequently make Thorough-Views, call'd *Ah, Ah,* which are Openings in the Walls, without Grills, to the very Level of the Walks, with a large and deep Ditch at the Foot of them, lined on both Sides to ſuſtain the Earth, and prevent the getting over; which ſurprizes the Eye upon coming near it, and makes one cry, *Ah! Ah!* from whence it takes its Name. This Sort of Opening is, on ſome Occaſions, to be preferred, for that it does not at all interrupt the Proſpect, as the Bars of a Grill do.

CASES and Flower-plots ſerve likewiſe for the Embelliſhment of Gardens. In Caſes, are raiſed Orange-Trees, Jaſmins, Pomgranate-Trees, Myrtles, Laurels, *&c.* which are regularly placed upon the Parterres of Orangery, along the Terraſſes, or on the Sides of Parterres; to form Walks; between theſe, are put Pots and Vaſes of *Dutch* Ware, filled with Flowers of every Seaſon, which are alſo ſet upon green

Banks, or upon the Coping of the Walls of a Terraſs, at a Deſcent of Steps; or elſe upon Plinths of Stone, in the Borders and Verges of Graſs.

SEATS, or Benches, beſides the Conveniency they conſtantly afford in great Gardens, where you can ſcarce ever have too many, there is ſuch need of them in walking, look very well alſo in a Garden, when ſet in certain Places they are deſtin'd to, as in the Niches or Sinkings that face principal Walks and Viſtas, and in the Halls and Gallerys of Groves: They are made either of Marble, Free-ſtone, or Wood, which laſt are moſt common; and of theſe there are two Kinds, the Seats with Backs to them, which are the handſomeſt, and are uſually removed in the Winter; and the plain Benches, which are fixed to their Place in the Ground.

YOU ſhould obſerve to lay one Colour in Oil, either green, or other, upon all that is expoſed to the Wet in a Garden, and is ſubject to rot; as the Lattice-work, Seats, Caſes, Forms, *&c.* and this not only to preſerve them, but to make them look with the greater Neatneſs and Beauty.

I SHALL give no Plates of the Ornaments now ſpoken of, becauſe they are things that belong more to Architecture than Gardening, and which I ſhould not have mentioned here but to point out the Places where they may be beſt ſet in a Garden.

End of the Firſt Part.

PART

A Small Portico at ye entrance of a Wood.

A Large Por

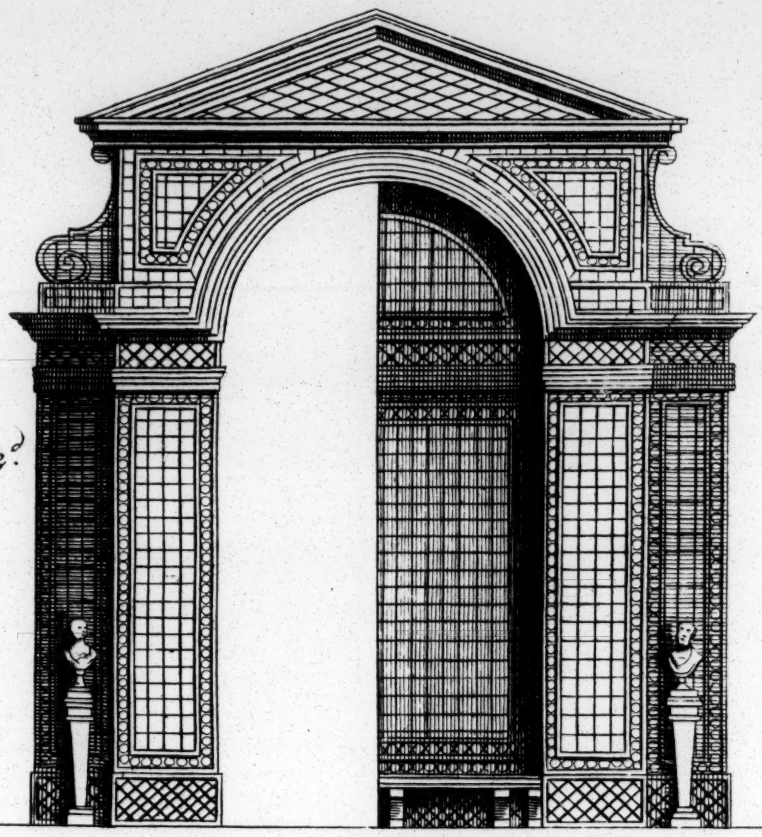


fig: 2d.

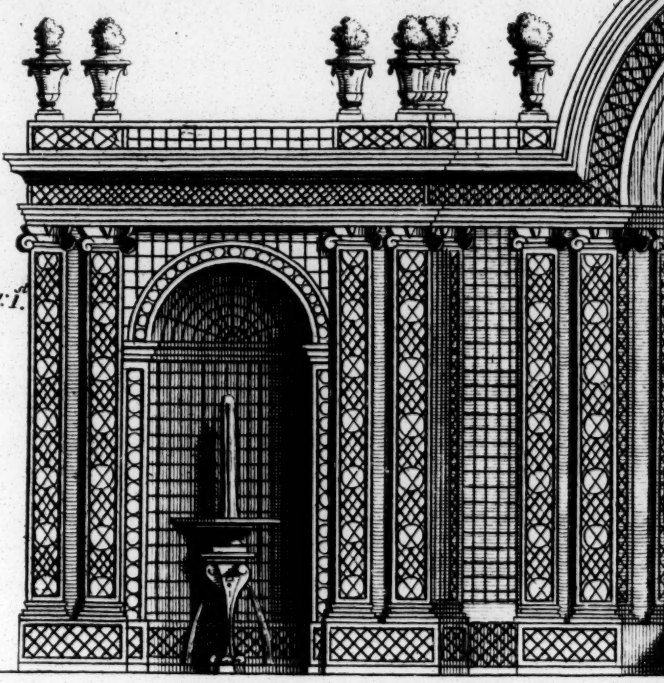


fig: 1.

A Cabinet of Arbor-Work open at top.

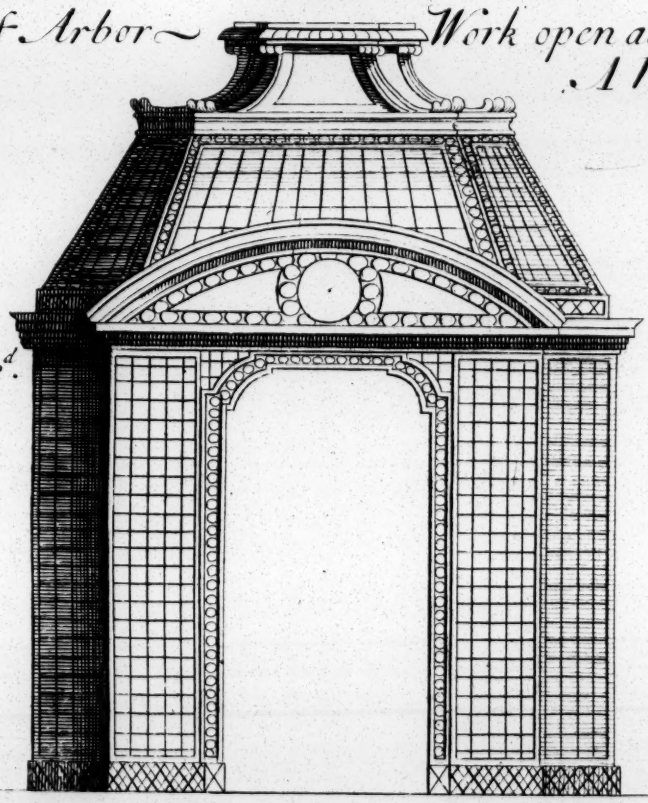


fig: 3d.

A Niche wth a Buffet-

of W

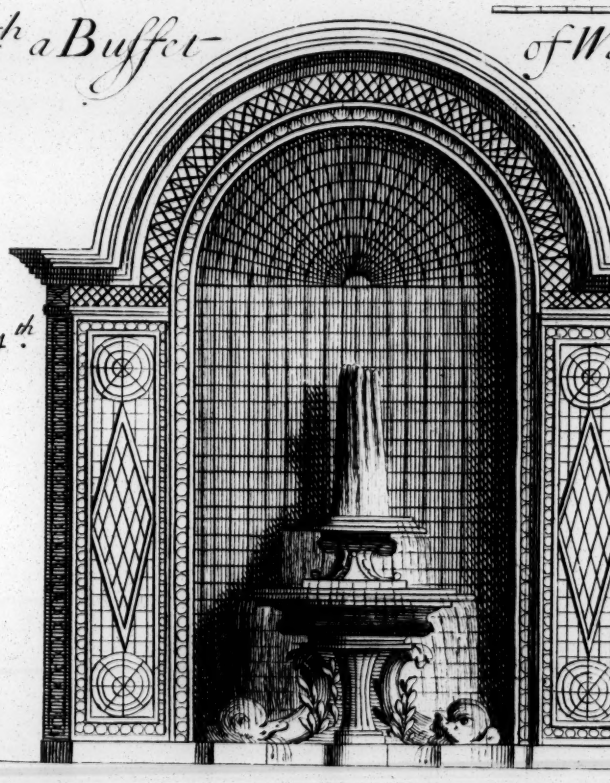


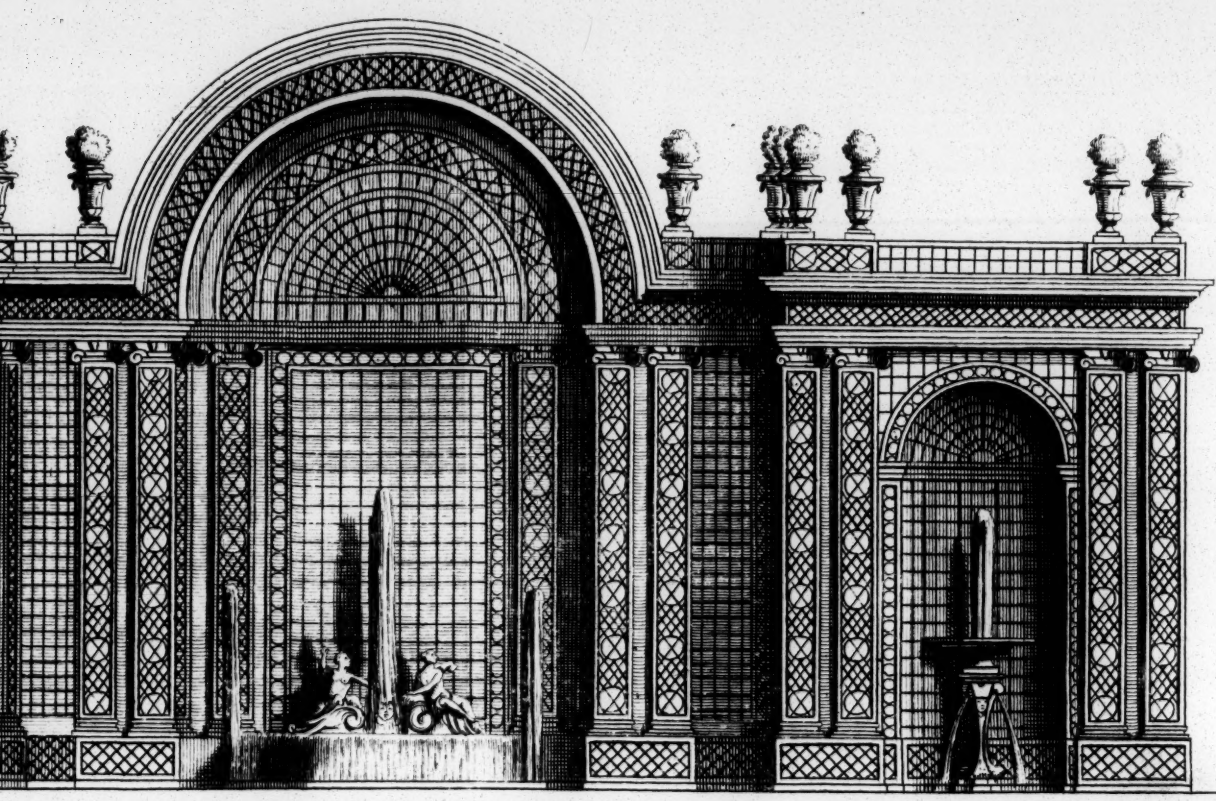
fig: 4th.

1 2 3 Fathom.

1 2

Plate E.

A Large Portico of Arbor-Work.



1 2 3 4 Fathom.

of Water-work. A Salon for y Entrance of an Arber.

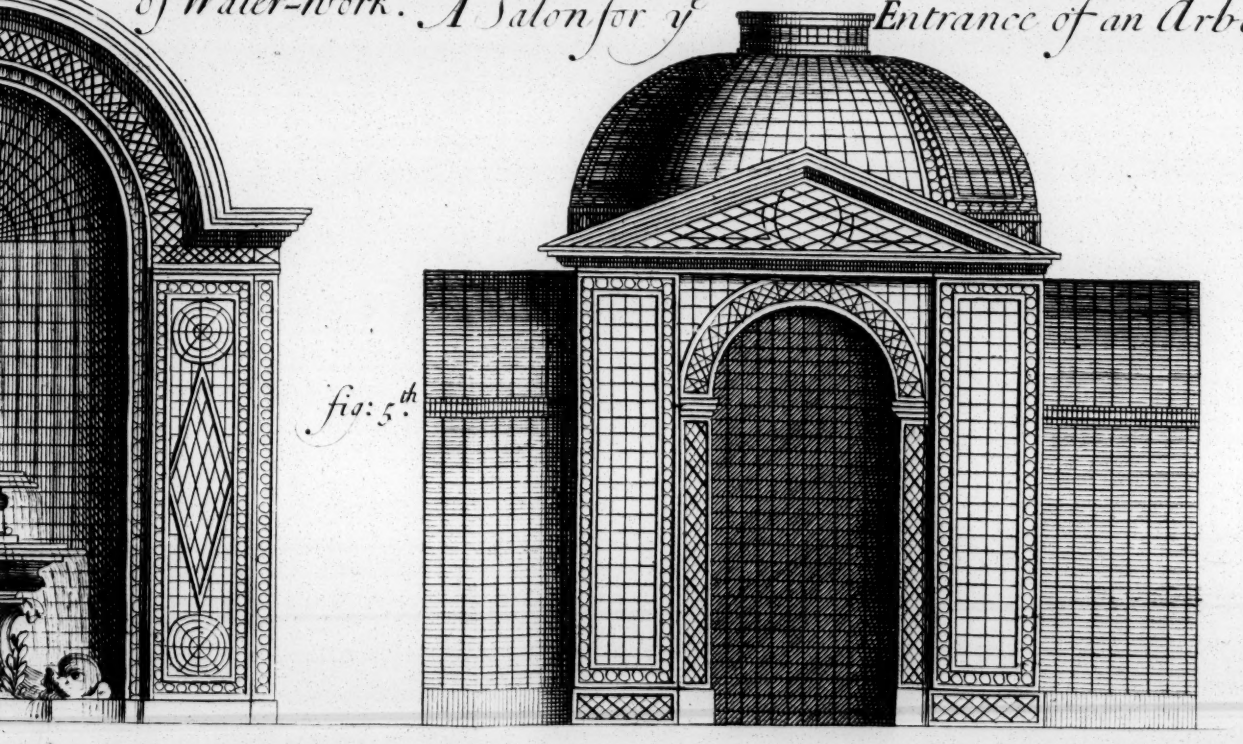


fig: 5th.

2 3 Fathom.

1 2 3 Fathom.

M.I.S.t Gu. Ve Exd.

Fig: 2d

The Green Arbours and Gallerys at Marly.

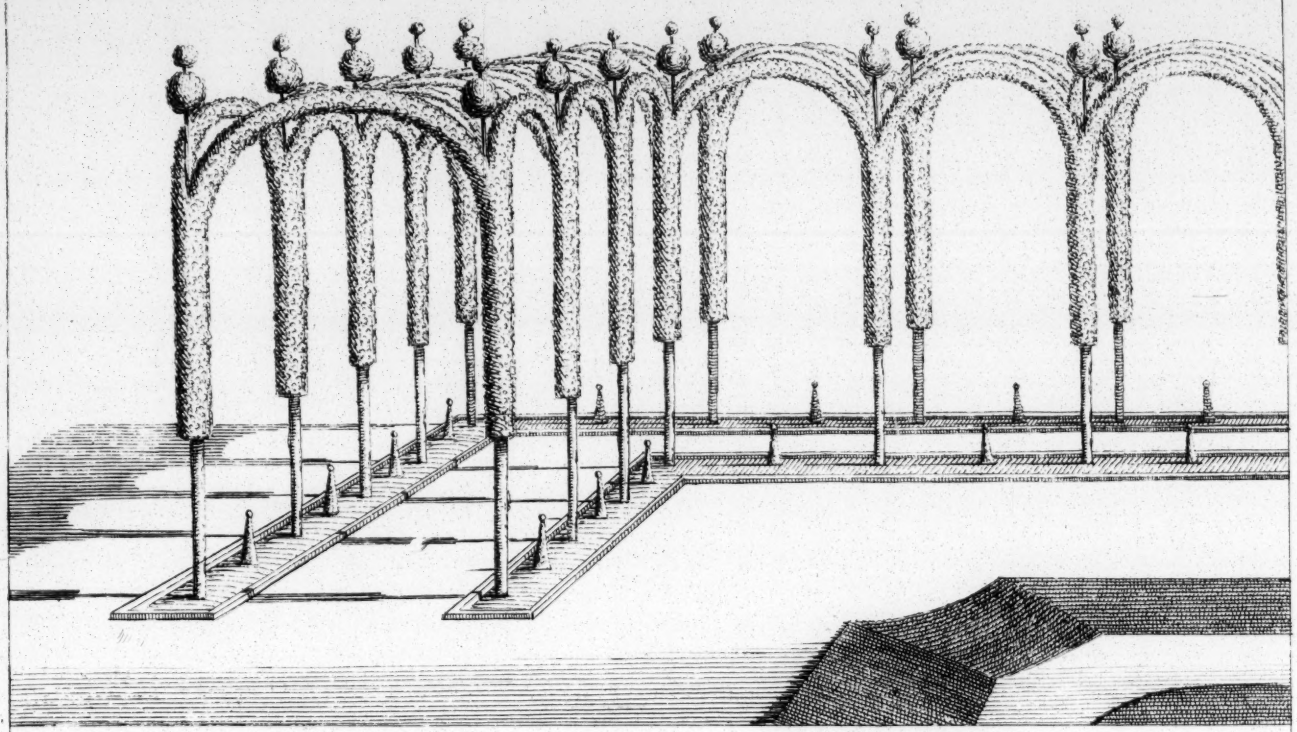


Fig 4th

A Green Portico and Cabinet with Arches.

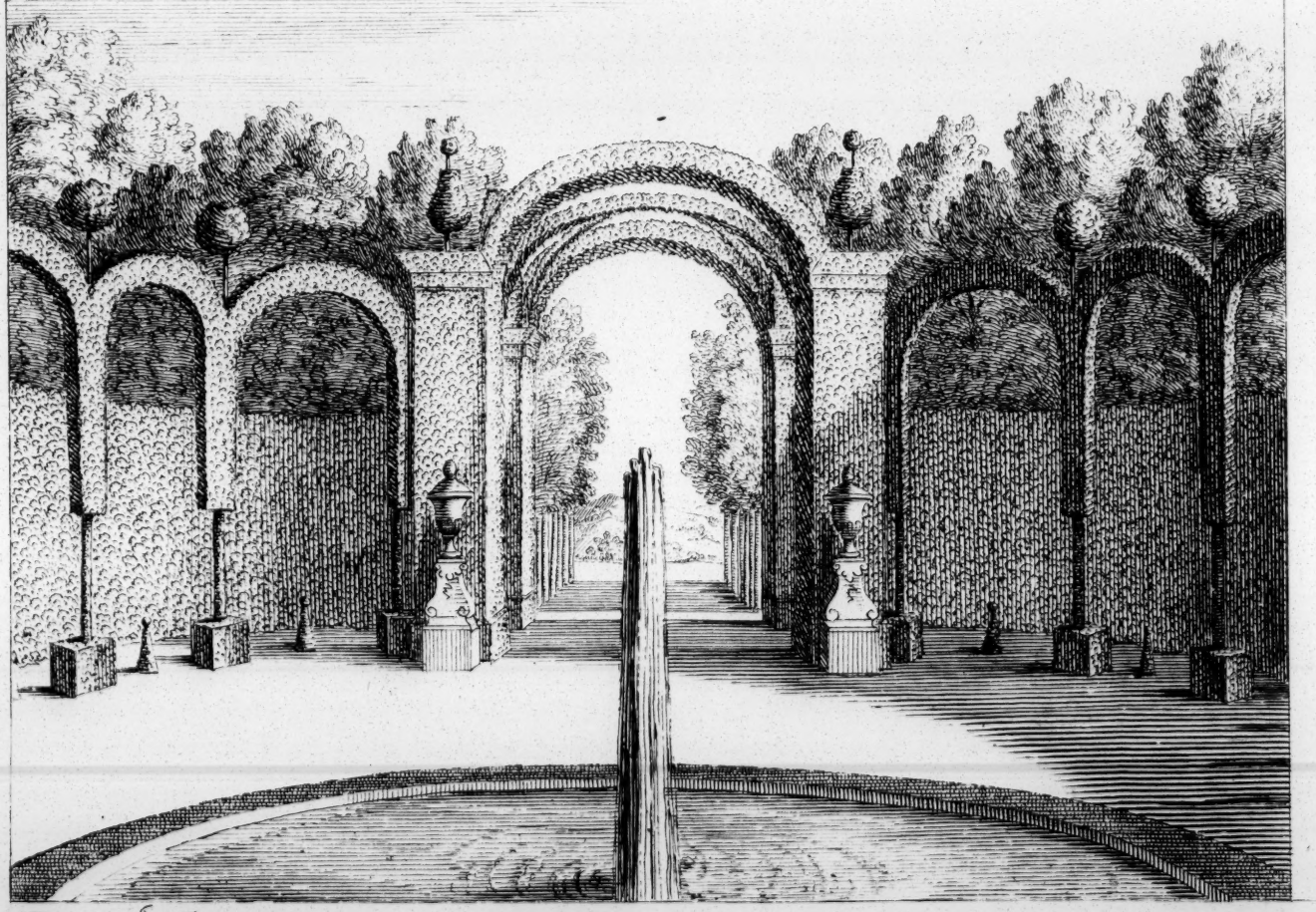


Fig: 1st

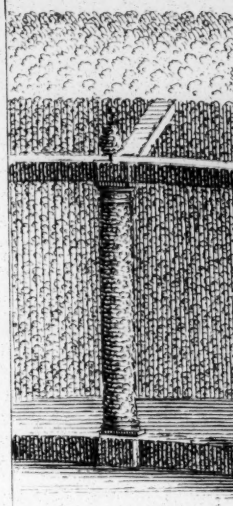


Fig: 3d

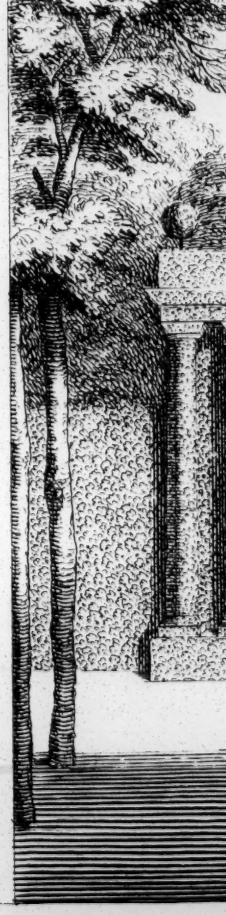


Fig: 1st

The Green Collonade at Marly.

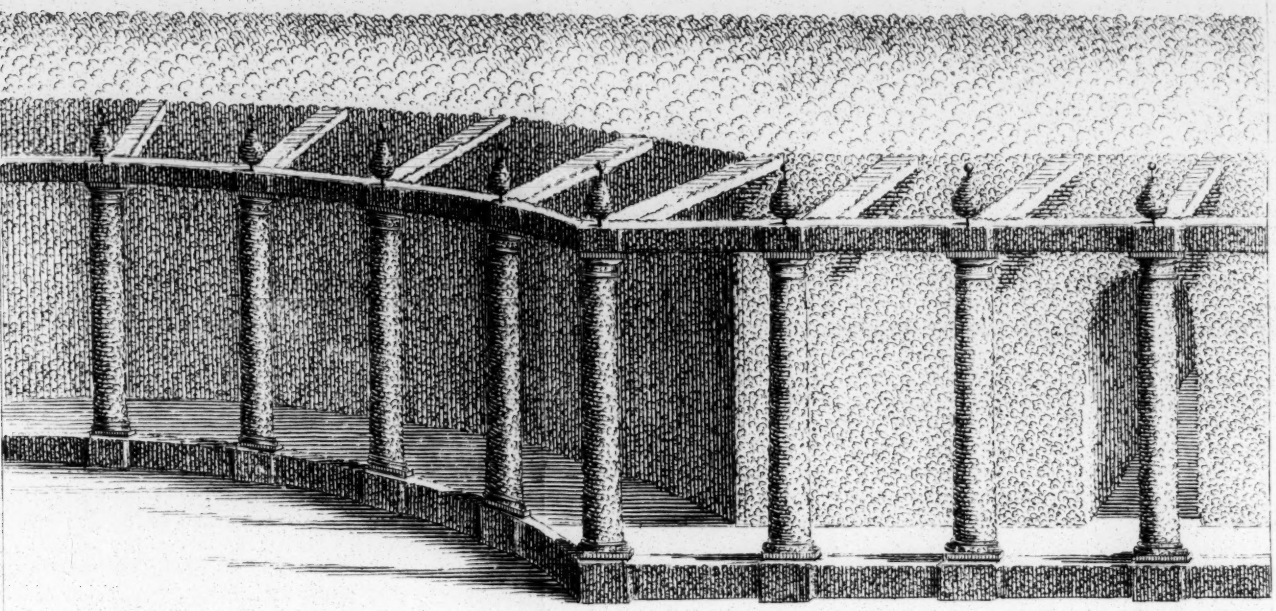
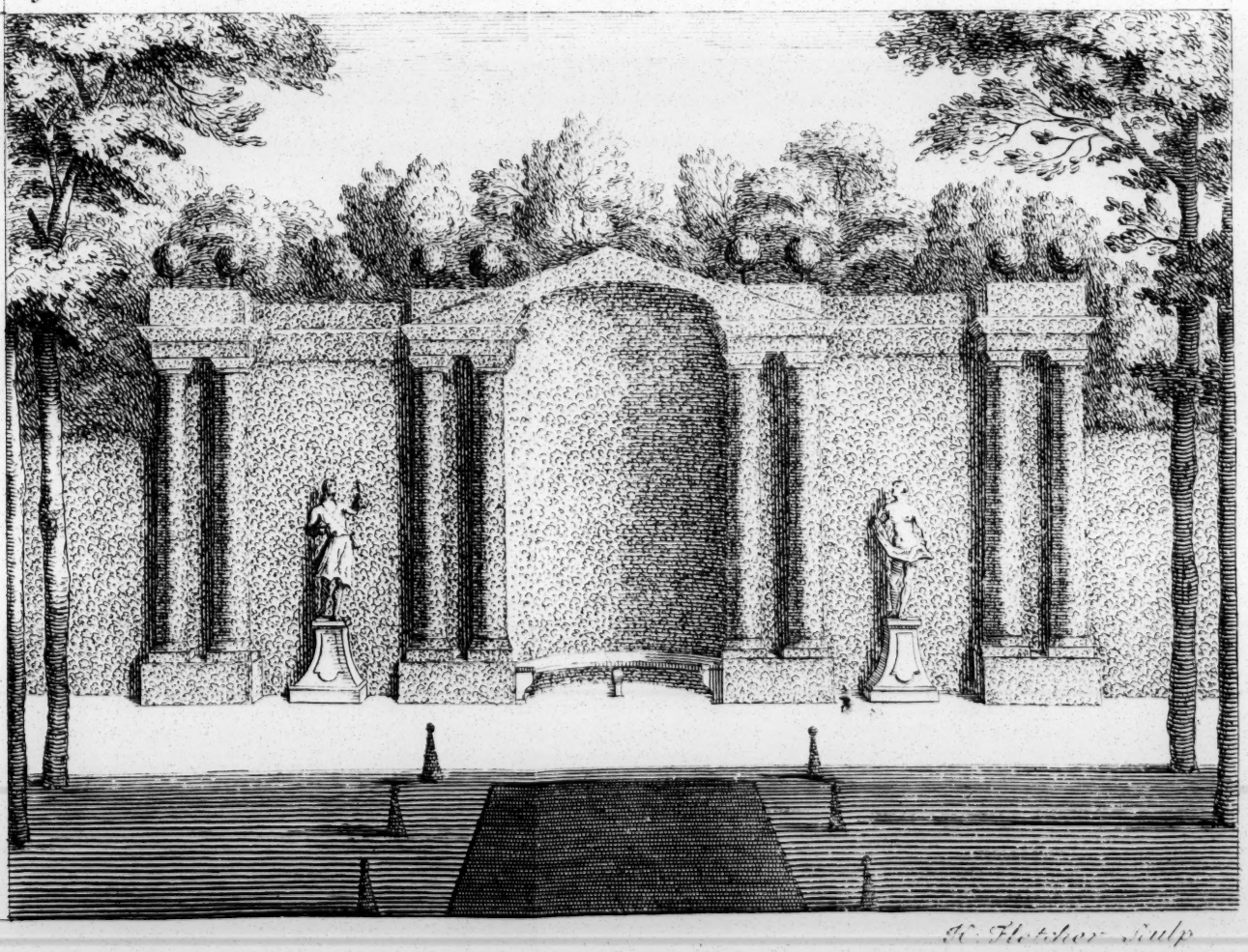


Fig: 3d

A Green Portico or front with Pillars.



H. Fletcher Sculp

PART II.

Which contains the

PRACTICE

OF

GARDENING.

CHAP. I.

A Preliminary of ſome Practices in Geometry, deſcrib'd upon Paper; with the Manner of marking them out to a Truth upon the Ground.

'TIS not enough to have ſpoken, in the former Part, of all that is requiſite to compoſe a handſome Garden, and ſhewn you how to make a right Choice thereof, by the Examples given in thoſe Deſigns; it is farther neceſſary, that I now inſtruct you in the Practice, and the Manner of putting in Execution all thoſe noble Ideas, which, without

the Help of this, would remain but ſo many obſcure Myſteries. Indeed, all that has been ſaid hitherto, being, to ſpeak properly, but the Theory of this Work, thoſe Chapters would be of no Service, without theſe of the Second Part, which contain the Practice: *La Theoria niente ſenza la Pratica*, is the *Italian* Saying. 'Tis in this moſt Authors fail, who are apt to enlarge very amply upon the Speculative Part of a Science, and ſpeak but very little or nothing at all of the Practick; which renders their Works of no great Uſe, and makes one regret the Time ſpent in reading them, when 'tis not poſſible to reap any Advantage thereby.

THE Method of tracing Things out upon the Ground, conſiſts in a great deal of Practice, rather than in any Depth of Science: There needs no more than to know ſome few Rules of Practical Geometry, to capacitate a Man for this Work in little Time. Experience, Tryal upon the Ground, and a cersain Rote, are more neceſſary to this End, than long Reflexion and Contemplation in the Cloſet: Nevertheleſs, if a Man neglect to inform himſelf of theſe Rules, and apply himſelf ſtraitway to work upon the Ground, before he has deſigned upon Paper, or, at leaſt, before he knows the Relation the Paper has to the Ground, he certainly runs the hazard of being oftentimes miſtaken. I am not ſaying that a Man muſt needs be an excellent Geometrician, to be capable of tracing out Deſigns upon the Ground; this is above the Reach of a Gardener; and, if it were neceſſary, a Garden would lie a long Time uncultivated, were it to wait its Maſter's rendering himſelf accompliſh'd in a Science, for which the whole Life of Man is ſcarcely ſufficient.

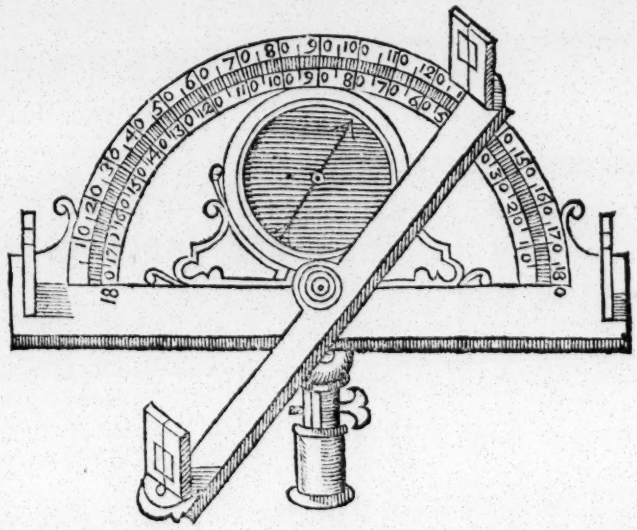
P. Pardies. S. Le Clerc.

NOR would I impoſe upon a Gardener the Neceſſity of reading any Treatiſe of Practical Geometry, though there be thoſe that are very good, and very ſhort. I would ſpare him that Trouble: For which Reaſon I have carefully collected, from Practical Geometry, all that can any ways relate to Deſigns of Gardening, and from thence have compoſed theſe Preliminaries, or Elements of the Method of tracing, which I have reduced to the twenty following Exerciſes.

THERE

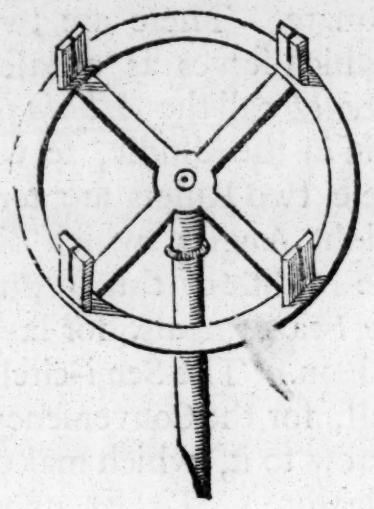
THERE are ſeveral Inſtruments made uſe of for tracing upon the Ground; but the moſt common are the Graphometre, or Semi-circle, and the Square, or perfect Circle.

THE Semi-circle is uſually made of Braſs, and ſhould have from ſix to twelve or fifteen Inches Diameter: The larger it is, the better for Uſe. This Semi-circle is divided into 180 Degrees, which is half the complete Circle into 360; and 90 Degrees, which is the quarter of the Circle, ſerves to form a Right Angle, and raiſe a Square. There are two Rulers or Indexes, one immoveable, which ſerves as a Baſe; and the other moveable, which the *French* call the *Alhidade*, which turning about upon a Center-Pin in the Middle, ſerves to take the Openings of Angles. Theſe two Rulers are terminated by Sights ſtanding up at Right Angles, which direct and guide the Viſual Ray. The Middle of this Inſtrument is generally furniſhed with the Sea Compaſs, for laying down the Points thereof upon a Plan. The Semi-circle is mounted upon a Knee-Joint, or Ball, for the Conveniency of turning it every way, having a Screw to it, which makes the Joint go ſtiffer, or ſlacker at pleaſure. 'Tis ſet upon the Ground by means of three Legs or Staves tipt with Iron, which are put into as many Sockets below the Ball, and thruſt into the Ground, as Occaſion requires. See the Figure.



THE leſſer Sort of Semi-circles are fixed upon a Ball with no more than one Socket, and conſequently require but one Leg, which is placed exactly upon any Point aſſign'd in the Ground. But the greater Semi-circles that ſtand upon three Legs, as it would be difficult to ſet them preciſely over a given Point, have a Plummet which hangs down, and ſhews when the Center is juſt over the Place in queſtion.

THE Square, or whole Circle, which is an Inſtrument much made uſe of in Gardening, and Surveying of Land, differs very much from the Squares of Maſons, and other Artificers: This is a perfect Circle, cut into four equal Parts, by two immoveable Rulers fixed to the Circumference, which croſs one another at Right Angles, as may be ſeen in the Figure. At the four Extremities of theſe Rulers, and ſometimes in the Center, are Sights placed for raiſing a Square, and returning a Line at Right Angles. This Inſtrument is generally made of Iron only, but would be better of Braſs. 'Tis mounted upon a ſingle Socket without a Ball, into which is fix'd a Leg, when you make uſe of it upon the Ground. This is called a Plain Square, becauſe it has no Diviſion of Degrees upon the Circle, nor no Alhidade, or moveable Index: For which reaſon there is no taking the Opening of an Angle with it; nor is it of any other uſe upon the Ground, than to range ſtrait ſuch Lines as are to be continued to a great Length, and to form Right Angles upon any Occaſion. This Defect makes the Semi-circle preferred to it, which is an Inſtrument much more complete, and which ſerves not only for the taking and drawing of Plans, but alſo for many other Operations in Geometry.



THESE Inſtruments are carried into the Country very conveniently in Caſes, and the Legs and Ranging-ſticks are tied up together in a Bundle

UPON the Ground we make uſe likewiſe of the Fathom, the Line, or ſmall Cord, and of Ranging-ſticks and Stakes; all which are Things ſo requiſite in Gardening, that one may ſay they are of daily Uſe, there being ſcarce a Day in a Year that a Gardener has not Occaſion for one or other of them.

THE Fathom is a ſtrait Rod of ſix foot long, the Diviſion of which is marked with ſmall Nails; each Foot is divided into 12 Inches, the Inch into 12 Lines, and the Line into 12 Points. The Fathom regulates the Length and Breadth

of

of Walks, and ſerves for taking the larger Meaſures, as the Foot does for the leſſer.

WE make uſe alſo of a ſmall Chain of three or four Fathom long with Spikes of Iron, which, for large Meaſures, is much more certain than the Fathom.

THE Line is nothing but a ſmall Cord or Pack-thread wound about a Stick, which is run off according to the Length required: You may obſerve, that to keep it from ſtretching, it will be neceſſary to double it, and make Knots in it at every four Foot; we alſo make Loops at the Ends to put the Stakes through, when we draw a Circle, Oval, Half-Moon, *&c.*

We generally make this Line from 15 to 20 Fathom in Length.

AS the Line is ſubject to ſome Inconveniencies by becoming longer or ſhorter, as it is more or leſs ſtrained, to ſhrink much when it is wet, and to ſtretch upon drying, you may, inſtead of it, make uſe of ſmall Iron-Wire, or Lines made of the Rinds of Lime-Tree, or of the Branches of Bend-with tied together, which are not ſubject to that Inconvenience.

WE call it Straining the Line, when, being faſten'd to two Stakes, you draw it as tight as you can, ſtill obſerving, that the Line be neither ſlack nor confined; that is to ſay, that in lifting it up a little between your Fingers, it bear every where alike, without any Clod or Bank to raiſe, confine, or force it ever ſo little.

RANGING-STICKS and Stakes are plain Sticks, which ſhould always be choſen as ſtrait as poſſible, to facilitate the Work. They are made ſharp at one End for fixing them in the Ground, and the upper End is cut very ſmooth and even, which we call the Head of the Ranging-Stick.

THE Ranging-Sticks, or Perches, differ from the Stakes, or Spikes, in nothing but that they are bigger, and ſhould be five or ſix Foot long, whereas two or three foot Length is enough for the Stakes.

THE Terms of ſtaking out, alining, ranging, and bourning, all ſignify the ſame Thing; and are, when he that performs the Work, ſhutting one Eye, and opening the other, applies it to the Head of the Ranging-Stick, to direct all the others in the ſame Line, which we call the Line of Aim, or Viſual Ray.

IT happens, that if the Eye be applied too near the Stick, a Defect in the ſtanding of the others can't be ſo well perceived, becauſe the Viſual Ray is always apt to deviate; 'tis better, therefore, to place yourſelf three or four Foot beyond the Ranging-Stick; and ſtooping to its Height, with one Eye ſhut, aim with that which is open, and direct all the other Stakes according to the Range of the firſt, with that in the Middle, and at the other End, ſo that they be all cover'd, and appear as one only, were there thirty of them ſtanding in the ſame Line.

'TIS no way neceſſary, that the Ranging-Sticks ſhould ſtand of equal Height in this Caſe; that is required only in Levelling; for if one Stick ſtand half a Foot higher than another in this Work, it matters not, ſo they range directly, and cover one another as they ought.

IN drawing upon the Ground, there is likewiſe need of an Inſtrument, called a *Tracing-Staff*, which is a long ſtrait Stick tipt with Iron at the lower End, having the Point triangular, or flatted like a Cat's Tongue; with this Tracing-Staff you ſtrike out and deſign all the Figures of a Garden; in a word, 'tis the very Pencil-Caſe of him that traces Things upon the Ground.

IN tracing, you muſt ſtrain the Line from Stake to Stake, and follow it with the Tracing-Staff, ſo as not to force it one way or other: In great Lengths, it would be well to drive ſmall Spikes in the Track, at proper Diſtances, both for fear it ſhould be defaced, and alſo that it may be the better diſtinguiſh'd at a Diſtance.

WHEN you trace, the Earth ſhould be broke up a little before the Tracing-Staff, to make the Track ſhew larger and deeper: You paſs the Tracing-Point ſeveral times through the ſame Track, and ſometimes your Hand ſide-ways, to mark it the more diſtinctly, leſt the Wind and the Rain ſhould deface it.

YOU ought never to take up the Stakes till the Track be ſcored out very plain upon the Ground, and two, at leaſt, ſhould be conſtantly left in each Line, as well to be of uſe in planting the Trees, as for recovering new Meaſures, ſhould it be afterwards neceſſary.

WHAT we call Raiſing a Square (which is a Term much uſed in this Work) is, when, upon a ſtrait Line drawn with the Inſtrument, or with the Cord, you cauſe another Line to fall directly perpendicular, which makes a Right Angle, or Square; and is what the *French* Workmen call, *Le Trait quarré.*

YOU muſt take the Precaution in working, to have near you a ſmall Line of three or four Fathom long, to take the leſſer Meaſures, and perform the ſmaller Operations; as alſo to have a large wooden * Square to make the ſhort Returns you meet with in your Deſigns, where 'tis needleſs to make uſe of the Semi-circle, or Cord, to raiſe the Square.

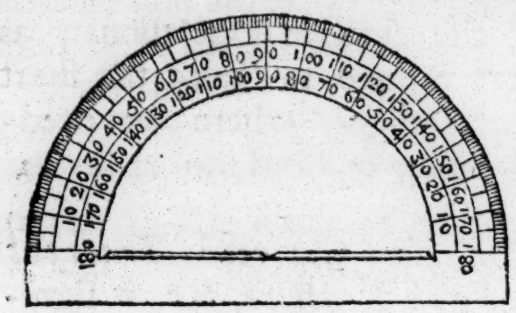
* *This is the ſame Square that all Workmen make uſe of.*

WHEN, in the following Exerciſes, you read, *Trace out this Line by the Third, by the Fifth Practice,* &c. it ſignifies that 'tis the ſame Operation that was done before in the Third or Fifth Practice, to which you are referred, to avoid Repetitions; and the Practices are numbered exactly, for this very Purpoſe.

'TIS convenient to ſay one thing here, before I enter upon the following Exerciſes; That a Gardener who is deſirous to learn, be not ſtartled at the Difficulties he may conceive, either in the Buſineſs of Deſign, which he may think indiſpenſably neceſſary for him to know how to perform, or at the great Pains he may ſuppoſe 'twill coſt him, to apprehend, and put in practice, all the following Figures.

AS to the firſt Difficulty, I ſhall ſay, for all Gardeners and Countrymen in general, that 'tis not neceſſary they ſhould know how to deſign, but only that they ſhould underſtand a Plan, ſo as that when a Deſign is given them, they may be able to ſtrike it out to a Truth upon the Ground; which is done by means of a ſmall double Line divided by the Fathom, which is called the Scale of the Plan, and is always at the Bottom of the Paper. As all the Parts of a Deſign are made upon this Scale, and that it is an infallible Rule for deſcribing them truly upon the Ground, to follow it exactly, the Gardener has no more to do than to examine the Scale, and conſider into how many Fathom 'tis divided. For this Purpoſe, he muſt have a Pair of Compaſſes wherewith to meaſure all the Parts of the Plan, a Ruler to prolong the

Lines and Centers, which muſt be found upon the Paper; and meaſuring theſe by the Diviſion of his Scale, he will know how many Fathom they have in Length and Breadth. He will have need likewiſe of a ſmall Inſtrument, called a Protractor, ſuch as is repreſented in the following Figure, which is to take the Openings of Angles. The Protractor is applied to one of the Sides of the Angle, and reckoning from its Center, the Number of Degrees from the Baſe to the Place where the other Side of the Angle comes to cut the Circumference, you mark it down upon the Paper, and deſcribe it truly upon the Ground in like Proportion, by opening the Semi-circle, and ſetting the Alhidade or Moveable Index on the ſame Number of Degrees; becauſe the Protractor is divided into as many Degrees, as the great Semi-circle made uſe of for drawing upon the Ground.



As for the ſecond Difficulty, which is the great Pains a Gardener may prepoſſeſs himſelf he muſt be at, to apprehend the following Exerciſes, I ſhall anſwer, that if he will but read them over without Prejudice, and beſtow a little Application on them, let his Underſtanding be never ſo mean, he will find nothing difficult, and out of the Reach of an ordinary Capacity; having endeavour'd to reduce them all to as ſmall a Number as poſſible, and to range them in an eaſy and natural Order; beſides which, I have avoided a tedious Compaſs of Words and Terms affected in Geometry, which poſſibly might ſeem barbarous to him: In a word, it has been my whole Application to render myſelf intelligible to Gardeners, and to make that eaſy and plain to them, which in itſelf might poſſibly appear difficult. I write not then for Geometricians, nor for Perſons knowing in this Matter, to whom the moſt difficult Terms and Things are become familiar by Study; but only for Countrymen, and ſome that are curious in Gardening.

AFTER

AFTER this ſhort Advertiſement, we may proceed to the following Exerciſes, which are ſuppoſed to be deſigned upon Rolls of Paper, call'd Plans, and the Space upon the Side is the Ground, upon which they are conceiv'd to be laid down in a true and juſt Proportion; that is to ſay, converted from little to great. All theſe Exerciſes are contain'd in the four Plates at the End of this Chapter.

BY this Compariſon of the Paper with the Ground, you will judge of the Relation they have one to another; and I may truly affirm, that theſe Practices contain all that a Gardener needs to know in Geometry, for enabling him to trace out all Sorts of Figures upon the Ground, how difficult ſoever they may be.

A Compariſon of the Paper with the Ground, in what relates to the Manner of Tracing, reduced to Twenty Practices.

THE FIRST PRACTICE.

To draw a Right or ſtrait Line upon the Ground, with the Cord.

LET the ſtrait Line be *a b*, which is here ſuppoſed to be twelve Fathom: meaſure exactly this Length upon the Ground from *A* to *B*, and fix two Stakes there; then ſtraining the Cord from one to the other, mark the Line out upon the Ground with the Tracing-Staff, following the Cord, ſo as not to force it one way or other. FIGURE I. PLATE I.

OBSERVATION.

THIS Practice is proper only for a Diſtance of about 12 or 15 Fathom, by reaſon of the Difficulty you will have to trace a longer Line, by the Side of the Cord, without making it ſwerve.

THE SECOND PRACTICE.

To draw a Right Line upon the Ground by the help of Stakes.

SUPPOSE the Line to be drawn be found upon the Plan to be a hundred Fathom long, as the Line *c d*, drive a Stake

into the Ground upon one of the Extremities of this Line, as
FIG. II. at *A*, and another at the Extremity *B*, diſtant a hundred Fathom one from another; and, in a Line with theſe two, ſet another about the Middle, as at *C*; thus divide the whole Length *AB*, into ſo many Parts, that none may exceed 12 or 15 Fathom; and ſtraning a Cord from Stake to Stake, trace the Line at ſeveral Times, *according to the foregoing Practice.* You may afterwards take away the longer Stakes or Perches that ſerved for ranging, and fix ſhort Stakes or Spikes, pretty near one another, for finding the Track again more eaſily, if it ſhould be defaced.

THE THIRD PRACTICE.

To prolong a Right Line upon the Ground.

IN this Practice, the Line to be prolonged is ſuppoſed to be the Range of a Wall, or of a Building, as *ab*. Place yourſelf at the Extremity, oppoſite to that which ſhould be
FIG. III. prolonged, as at *A*, and cauſe a Stake to be fixed beyond the Corner *B*, as at *C*, in ſuch manner that this Stake ſwerve not from the direct Line *AB*, towards *D*, or towards *E*; and then trace out the Line *BC*, *by one of the preceding Practices*, according to the Length of it.

THE FOURTH PRACTICE.

To deſcribe, with the Cord, a Right Line, which ſhall be ſquare or perpendicular to another Right Line already traced.

LET the Right Line traced upon the Ground be *CD*, and the Stake *E* planted at the Point, from whence the Perpendicular ſhould be raiſed: Carry on each Side the Point *E*,
FIG. IV. about ſix or eight Fathom, and ſet two Stakes there, as *F* and *G*, then fixing the Loops at the Ends of the Cord upon the two Stakes *F* and *G*, draw the Loop in the Middle of it towards *H*, ſo that the two Sides of the Cord *FH*, and *GH*, may be ſtrained alike. Drive a Stake at *H*, juſt before the Loop, that is to ſay, in the Angle made by theſe two Lines, and ſtraining another Cord from *E* to *H*, trace out the

Line *HE*, which ſhall be perpendicular to the Line *CD*, and like to that of the Plan *ab*.

THE FIRST OBSERVATION.

FOR performing this and the following Practices, you may take a Cord of 15 or 20 Fathom long, and make a Loop at each End of it; then double it, and ſtraining it equally from the two Ends, make a third Loop in the Middle.

THE SECOND OBSERVATION.

THIS Practice may be performed likewiſe, by tracing two Portions of a Circle from the Stakes *F* and *G*, equally diſtant from the Point *E*, by means of a ſmall Tracing-Pin fixed at the End of the Cord, which will form two Sections in *H*; and in the Place where they cut one another, call'd the Point of Interſection, plant the Stake *H*, from whence, to that of *E*, draw the perpendicular Line *HE*. This Practice may alſo ſerve for all that follow.

THE FIFTH PRACTICE.

To deſcribe with the Inſtrument, a Line perpendicular to a Right Line given.

LET the given Line traced out upon the Ground be *AB*, and let the Stake *C* be planted at the Point from whence the Perpendicular is to be raiſed, as is marked in the Plan by *ab*; fix the Semi-circle upon its Foot plum over the Stake *C*, and direct its Baſe towards the Stake *A*, or towards *B*, by means of the Sights that are upon the Baſe; and turning yourſelf ſquare, ſet the Moveable Index to 90 Degrees, and, by the Sights upon the Index, direct a Stake to be drove towards *D*, at a Diſtance proportionable to the Length the Perpendicular ought to have: You then trace this Line from the Stake *D*, to *C*, *by the firſt or ſecond Practice*, which Line ſhall be perpendicular or ſquare to the given Line *AB*. FIG. V.

THE SIXTH PRACTICE.

To deſcribe with the Cord, a Perpendicular Line at the End of a Right Line given, already traced.

HAVING upon the Paper the Line *a b*, perpendicular to the Line *b c*, which muſt be deſcribed upon the Ground: To do this, from the Extremity *A* of the traced Line *A B*, FIG. VI. meaſure (ſuppoſe) 10 Fathom, and drive a Stake, as at *C*; then take a double Line of 10 or 12 Fathom, and fixing the two End Loops upon the Stakes *A* and *C*, draw the Middle Loop towards *E*, and plant a Stake there; and taking the Loop off from the Stake *A*, put another Stake through it; and ſtraining the End of the Cord, ſo that it range in a Line with the Stakes *E* and *C*, as at the Point *G*, fix this Stake there, and ſtrain another Line from the Stake *A* to the Stake *G*; the Line *G A* ſhall be perpendicular to the Line *A B*.

OBSERVATION.

YOU may raiſe this Perpendicular at the End of a Line, by the help of the Semi-circle, ſetting it plum over the Stake at one of the Extremities, and directing the Baſe towards the other Extremity, you then place the Alhidade or Index over 90 Degrees, and work as *in the fifth Practice*.

THE SEVENTH PRACTICE.

To draw, with the Cord, a Line parallel to a Right Line traced out.

FIG. VII. LET the two parallel Lines upon the Plan be *a b* and *c d*, diſtant from one another 12 Fathom, and let the Right Line PLATE II. *C D* be traced upon the Ground. At each of its Extremities *C* and *D*, raiſe a Perpendicular, *according to the foregoing Practice*; ſet upon each of them the Length of 12 Fathom as here, from *C* to *E*, and from *D* to *F*, and then draw from the Point *E* to *F*, the Line *E F*, which ſhall be parallel to the ſame *C D*.

THE

THE EIGHTH PRACTICE.

To draw with the Semi-circle, a Line parallel to a Right Line traced out.

LET the two parallel Lines upon the Plan (as in the foregoing Practice) be *a b*, and *c d*, which ſuppoſe diſtant from one another 50 Fathom, and that the Line *A B* were traced upon the Ground, to which a Parallel ſhould be drawn at the like Diſtance. From the Point *C*, taken at Pleaſure upon the Line *A B*, raiſe with the Inſtrument a large Perpendicular, *by the 5th Practice*; then moving the Inſtrument to the Point *D*, 50 Fathom diſtant from the Point *C*, direct the Baſe towards the Stake *C*, and the Moveable Index being upon 90 Degrees, direct by the Sights, a Stake towards *E*, and another towards *F*, and trace the Line *E F*, *by the firſt or ſecond Practice*, according to the Length it contains upon the Plan. FIG. VIII.

OBSERVATION.

WHEN there are ſeveral Lines to be drawn parallel to one given, there needs no more than to ſet off the Diſtances from one to the other, either after *the ſeventh Practice*, by raiſing Perpendiculars at the Ends, or according to this laſt, by returning the Square with the Semi-circle, at each of the Points meaſur'd off upon the great Perpendicular in the Middle.

THE NINTH PRACTICE.

To deſcribe, with the Line, an Angle equal to an Angle given upon the Paper.

TAKE upon the Plan a Length at Pleaſure, as here, of eight Fathom. With this Interval, upon the Point of the Angle *a*, deſcribe with the Compaſſes an Arch, as *b c*, which joins the two Sides of this Angle, and meaſure the Diſtance of the two Points *b* and *c*, ſuppoſed four Fathom, which is call'd the Cord of the Arch *b* and *c*. Then mea- FIG. IX.

ſure upon the Line traced upon the Ground, eight Fathom, as from *A* to *B*, and taking a Line of four Fathom, the Loop of which is fixed to the Stake *A*, and another of eight Fathom fix'd in like manner to the Stake *B*, join them together at the Point *C*, where drive a Stake; after which you draw the Line *CB*, which with the traced Line *AB*, makes the Angle *BAC* equal to that of the Plan.

THE TENTH PRACTICE.

To draw, with the Inſtrument, an Angle equal to an Angle given upon the Plan.

MEASURE the Angle marked upon the Plan with the
FIG. X. Protractor, by placing its Corner upon the Point *a*, and its Baſe along the Line *ab*, count how many Degrees there are from *c* to *d*; as ſuppoſe thirty, keep this Number carefully in mind, that it be ſet off exactly upon the Ground, in ſuppoſing *AB* the traced Line, and the Point *B* that from which is to be drawn an Angle equal to that of the Plan. Set the Center of the Semi-circle as perpendicularly as poſſible over the Point *B*, and directing the Baſe to the Stake *A*, place the Index at the Point *C*, upon the ſame Degree that you found upon your Paper with the Protractor, and by the Sights of the Index cauſe a Stake to be planted towards *D*, and draw the Line *BD*, *by either of the firſt two Practices*, as beſt ſuits with the Diſtance contained between *B* and *D*.

THE ELEVENTH PRACTICE.

To draw with the Line, a Triangle equal to a Triangle given upon the Plan.

LET the ſuppoſed Triangle be *abc*; meaſure each of its
FIG. XI. Sides, and note them upon the Plan, then drawing the Baſe *AB*, found, for Inſtance, to be ten Fathom; take, according to the Meaſure of the other two Sides, a Line of 12 Fathom long, and fix it by a Loop to the Stake *A*; and one of 9 Fathom, which fix in like manner to the Stake *B*; and joining their Extremities, as in *C*, drive a Stake there: then draw the

the two Lines *AC* and *BC*, and the Triangle *ABC* ſhall be like that of the Plan.

THE FIRST OBSERVATION.

IF the Triangle had the three Sides equal, which we call Equilateral, you need only take two Lines of equal Length with the Baſe, at the Extremities of which, having two Stakes run through the Loops, and joining the Ends of theſe Lines together above, you plant a Stake, where they interſect, and then trace the two Lines, as before.

THE SECOND OBSERVATION.

IF the Triangle ſhould be ſo large that it could not be conveniently drawn with the Line, you muſt then meaſure one of its Angles, as that of *a*, with the Protractor, which ſuppoſe 50 Degrees, and the Side *a b* 100 Fathom, and *a c* 120 Fathom. After having drawn upon the Ground the Line *A B* 100 Fathom, *by the ſecond Practice*, place the FIG. XI. Semi-circle on the Point *A*, directing its Baſe to the Point *B*, and ſetting the Index to 50 Degrees, you direct the Stake *C* to 120 Fathom diſtant from the Stake *A*; after which, from the Stake *C* to that of *B*, you draw the Line *CB*, which with the Lines *AC*, and *AB*, form the Triangle demanded.

THE TWELFTH PRACTICE.

To draw an oblong Square, or right-angled Parallelogram.

AFTER having meaſured the Length *a b*, and the Breadth *b c* of the Parallelogram deſcribed upon the Paper, and quoted them, as ſuppoſe 8 and 15 Fathom, trace out the Line *AB* of 15 Fathom, and upon one of its Extremities, as *A*, raiſe a Perpendicular of 8 Fathom long, as from *A* to *C*, *by* FIG. XII. *the ſixth Practice*. Then fix a Line of 15 Fathom long to the PLATE III. Stake *C*, and one of 8 Fathom to the Stake *B*; and where their Extremities meet, as in *D*, drive a Stake, and trace the Lines *BD* and *CD*, which, with *AB* and *AC*, will form the Parallelogram *ABCD*.

THE

THE FIRST OBSERVATION.

IF the oblong Square were much bigger than this, you muſt then raiſe, with the Inſtrument, two Perpendiculars upon the Extremities of the Line *A B*, *according to the Obſervation on the ſixth Practice*, and make each of thoſe Perpendiculars equal to the Breadth of the Parallelogram.

THE SECOND OBSERVATION.

TO draw a perfect Square, the Practice is the ſame with that above, ſaving that the two Perpendiculars muſt be drawn as long as the Baſe of the Square.

THE THIRTEENTH PRACTICE.

To deſcribe, with the Line, an Irregular Figure of four Sides.

SUPPOSE the Irregular Figure to be *a b c d*, from the Point *a*, with the Interval *a c*, deſcribe with the Compaſſes an Arch, as *c e*; and from the Point *b*, with the Interval *b d*, make another Arch, as *d f*; meaſure the Lengths *a b*, which ſuppoſe 25 Fathom, *a c* 9 Fathom, *b d* 11 Fathom, and the Cords of the Arches or Diſtances from *c* to *e* 10 Fathom, and from *f* to *d* 14 Fathom. Then trace upon the Ground the Line or Baſe *A B* of 25 Fathom long, and carry from *A* to *E* 9 Fathom, and from *B* to *F* 11 Fathom; plant two Stakes in the Points *E* and *F*, and taking a Cord of nine Fathom fix'd to the Stake *A*, and one of 10 Fathom long fix'd to the Stake *E*, bring their Ends to meet in the Point *C*, and drive a Stake there: Do the like on the other Side, as upon the Stake *B* fix a Cord of 11 Fathom, and one of 14 upon the Stake *F*, bringing their Extremities together in the Point *D*, and tracing the Lines *A C*, *C D*, *D B*, you form, with the Baſe *A B*, the four-ſided Figure propoſed.

FIG. XIII.

THE FOURTEENTH PRACTICE.

To draw an irregular Figure of four Sides with the Inſtrument.

THE four-ſided Figure *a b c d*, is here ſuppoſed to be conſiderably bigger than the foregoing; as the Baſe *a b* to be

be 100 Fathom long, the Side *a c* 20 Fathom, and that of *b d* 30 Fathom. Meaſure, with the Protractor, the Openings of the two Angles that fall upon the Baſe *a b*; ſuppoſe here the Angle *a* to be 60 Degrees, and that of *b* 100, quote all theſe Meaſures exactly upon the Plan, and trace out upon the Ground the Baſe Line *A B* 100 Fathom long, *by the ſecond Practice*; then place the Semi-circle upon the Stake *A*, and make an Angle of 60 Degrees, that is to ſay, equal to the Angle *b a c* upon the Paper, *by the tenth Practice*; make the Side *A C* 20 Fathom, according to the Plan, and drive a Stake at *C*: Likewiſe from the Stake *B* make an Angle of 100 Degrees, and ſet off 30 Fathom on the Side *B D*, plant a Stake at *D*, and trace the Line from *D* to *C*, which with the Lines *C A* and *D B*, and the Baſe *A B*, form an irregular four-ſided Figure, like that of the Plan. FIG. XIV.

OBSERVATION.

EVERY Figure of many Sides, whether Regular or Irregular, is called a Polygone. Polygones take their Names from the Number of their Sides, from the Square to the Figure of 12 Sides, after which they have no particular Name.

The Polygone of	5	Sides is called	A Pentagone.
that of	6	. . . . .	An Hexagone.
of	7	. . . . .	An Heptagone.
of	8	. . . . .	An Octogone.
of	9	. . . . .	An Enneagone.
of	10	. . . . .	A Decagone.
of	11	. . . . .	An Endecagone.
and of	12	. . . . .	A Dodecagone.

THE FIFTEENTH PRACTICE.

To deſcribe, with the Line, any Polygone whatſoever.

SUPPOSE the Regular Polygone (*a*) to be of five Sides, called a Pentagone; draw from the upper Angle (*a*) two Lines to the Extremities of its Baſe *b* and *c*, which will form the Triangle *a b c*. Meaſure one of theſe two Lines only, and quote it upon the Plan, the other being equal to it. Then trace upon the Ground the Triangle *C D E*, like that of FIG. XV.

of *a b c* upon the Paper, *by the eleventh Practice*; which done, take two Cords equal to the Baſe *D E*, and putting their Loops over the Stake *C* and *D*, bring their Extremities together in the Point *G*. Again ſhift the Cords to the Stakes *C* and *E*, and do the ſame in the Point *F*, and plant Stakes at *F* and *G*. Then trace the Lines *D G*, *G C*, *C F*, and *F E*, which, with the Baſe *D E*, form a Regular Pentagone, like that of *a* in the Plan.

OBSERVATION.

FOR tracing any other Polygone whatſoever, you muſt reduce it into Triangles, as in the foregoing Figure, and transfer each of thoſe Triangles one after another upon the Ground, in the ſame Order as they lie upon the Paper; which is to be underſtood as well of Irregular Polygones, as Regular; the only Difference being, that in Regular Polygones the Triangles are equal, and in Irregular ones they are all unequal.

THE SIXTEENTH PRACTICE.

To deſcribe any Polygone whatſoever, with the Inſtrument.

OBSERVATION.

THIS may be performed two different ways; for it may happen, either that the Baſe of the Polygone may be determin'd upon the Ground, or that a fix'd Point be given where its Center muſt neceſſarily be.

THE FIRST WAY OF WORKING.

SUPPOSE the Line *B C* be drawn equal to one of the Sides of the Octogone *a*, which admit to be 15 Fathom and 4 Foot, meaſure upon the Paper, with the Protractor, one of the Angles made by the Meeting of two Sides of the
FIG. XVI. Octogone, as *c b* and *b i*, which is called the Angle of the Polygone; ſet your Semi-circle upon the Ground over the Point *B*, and make an Angle equal to that of the Octogone, which is 135 Degrees, according to the following Table; make the Side *B I* 15 Fathom and 4 Foot, which is the Length of the Baſe *b c* in the Plan; and do the ſame Work from the Points *I H G F E D*, in all which fix Stakes, and

and trace the Sides of the Polygone from one Stake to another, which will make it regular, and like that of *a* upon the Paper.

THE SECOND WAY.

IF the Center of the Octogone only be determin'd upon the Ground, as the Stake *A*, you muſt draw, upon the Plan, Lines from the Center *a* to all the Angles of the Polygone; take the Length of one of theſe Lines, called the *Radius*, as *ai*, the others being equal to it, and all ſuppoſed to be 20 Fathom; then meaſure upon the Plan, with the Protractor, the Angle made by the Meeting of two of theſe Lines or Radius's at the Center *a*, as *ab* and *ac*, which, according to the Table, is 45 Degrees, and is called the Angle at the Center. Set the Semi-circle upon the Ground over the Centre-Stake *A*, and mark out, one after another, eight Angles of 45 Degrees, *by the tenth Practice*; and upon each Line or Radius of theſe Angles, meaſure from the Stake *A* 20 Fathom, and drive Stakes there. Then draw the Lines from Stake to Stake, and they form a regular Octogone, like that of the Plan. FIG. XVI.

FIRST OBSERVATION.

AS there may ſometimes happen a Difficulty in drawing an Octogone, by reaſon one of its Points may preſent it ſelf to a Walk, inſtead of one of its Sides, you may do thus.

SUPPOSING firſt the middle Line *K L* to be drawn upon the Ground, and the Center *A* determined upon it, inſtead of opening the Inſtrument to 45 Degrees, which is the Angle at the Center of the Octogone, open it only to the half, which is 22 Degrees and a half, and place a Stake on the Radius *A B* at ſuch diſtance from *A* as will anſwer the Size you would give the Polygone; then take the Diſtance which the Stake *B* has from the middle Line *K L*, and carrying it on the other Side, at right Angles to *K L*, you have the place of the Stake *C* for one Side of the Polygone, which you may finiſh by either of the foregoing Methods. FIG. XVI.

YOU may do thus by all the regular Polygones, the number of whoſe Sides is equal, taking the half of the Angle at the Center.

SECOND OBSERVATION.

To make this ſixteenth Practice common to all regular Polygones, even from the Triangle and Square, to the Figure of twelve Sides, or the Dodecagone, you may have Recourſe to the following Table, were are contain'd the Angles of the Polygone, and thoſe of the Center; and 'tis ſufficient for the Work, to meaſure either one of the Sides of the Polygone, or the Line drawn from its Centre to one of its Angles, which is the Radius.

Names of the Polygones.	*Number of Degrees of the Angle of the Polygone.*	*Number of Degrees of the Angle of the Centre.*
Triangle	60	120
Square	90	90
Pentagone	108	72
Hexagone	120	60
Heptagone	$128\frac{3}{7}$	$51\frac{4}{7}$
Octogone	135	45
Enneagone	140	40
Decagone	144	36
Endecagone	$147\frac{1}{3}$	$32\frac{2}{3}$
Dodecagone	150	30

THIRD OBSERVATION.

WITH reſpect to irregular Polygones, you may make uſe of the Methods taught in this Exerciſe, either dividing them into Triangles, from a Point or Center taken in them at Pleaſure, meaſuring, with the Protractor, all the Angles, and, by the Scale, all the Radius's drawn to the Angles of the Polygone, ſetting off upon the Ground the ſame Openings of the Angles, and the Lengths found upon the Plan; or elſe, meaſuring each Angle of the Polygone with the Protractor, and afterwards its Sides, as was juſt now mention'd above.

THE

THE SEVENTEENTH PRACTICE.

To draw a Circle upon the Ground.

SUPPOSE the Stake *A* to be the Centre of the Circle which you would deſcribe, meaſure, upon the Plan, the Diſtance from the Center *a* to the Circumference, as from *a* to *b*, ſuppoſe ſix Fathom, which is the Semi-diameter or Radius; put the Loop of a Line of ſix Fathom long over the Stake *A*, and the Point of a Tracing-Pin through a Loop made at the other Extremity *B*. Carry the Line and Tracing-Point quite round about the Center *A*, till you come to the Place where you firſt began, as *B*, which traces your Circle entirely, obſerving that the Line be always ſtrained alike, that nothing interrupts it, and that the Tracing-Pin be conſtantly held in the ſame Diſpoſition, without varying its Point; beſides which, let the Stake in the Center *A* be held by ſome-body to keep it perpendicular, leſt in ſtraining the Line too much it give way, and make the Circle bigger than that of the Plan. FIG. XVII. PLATE IV.

OBSERVATION.

IT is eaſy to apprehend, that the Application of this Exerciſe may ſerve for tracing Half or Quarter-Circles, and, generally, any circular Segment whatſoever.

THE EIGHTEENTH PRACTICE.

To draw an Oval upon the Ground.

LET the Oval upon the Paper be *a*, whoſe longeſt Diameter only is determin'd 12 Fathom; trace out upon the Ground the Line *AB* of 12 Fathom long, and divide it into three equal Parts, where plant Stakes, as in the Points *C* and *D*. Then take a Cord of the Length *DB*, or *CA*, with which trace lightly two Circles, from the Center-Stakes *C* and *D*, which Circles interſect one another in the Point *E* and *F*; in theſe drive two Stakes, and the Points *CDEF* ſhall be the four Centers of the Oval. Fix a Line upon the Stake FIG. XVIII.

Stake *F*, and making it juſt touch or graze upon that of *D*, range it by the Stakes *F* and *D*, till it cut the Circumference of one of the two Circles, in a Point where you drive a Stake, as at *G*; do the ſame on the other Side, for planting the Stake *H* upon the Circumference; and from the Center *F*, without ſhifting the Line, draw the Arch *G H*, till you come to the Stakes *G* and *H*. This done, ſhift the Line, and putting it upon the Stake *E*, do the ſame thing for planting the Stakes *L* and *I*, and trace the Arch *I L*; then joining theſe Tracks with the two Portions of Circles at the Extremities *A* and *B*, you deface the reſt of theſe Circles marked with Points, that you find within the Oval, which is all that will then remain viſible.

THE NINETEENTH PRACTICE.

To trace an Oval, the two Diameters of which are determin'd upon the Paper.

LET the Oval be *a b c d*, the longeſt Diameter of which is 20 Fathom, and the ſhorteſt 12, as quoted upon the Paper. Trace upon the Ground the Line *A B* 20 Fathom long, which terminate by two Stakes, and divide it into two equal Parts, as in the Point *E*, upon which raiſe a Perpendicular of 12 Fathom long, *by the fourth Practice*; ſetting ſix Fathom on each ſide the Point *E*; then take one of theſe Halves as *E C*, and with a Cord lay it upon the great Diameter *A B*, from one of its Extremities, as from the Point *B* towards *F*; divide the Space that remains between *F*, and the Center *E*, into three equal Parts, and ſet off one of theſe Parts upon the ſame Line beyond the Point *F*, as at *G*: Then take the Diſtance from the Point *G* to the Center *E*, and ſet it off upon the other oppoſite Side, as from *E* to *H*, planting two Stakes there, to range with thoſe of the two Ends *A* and *B*; and from theſe Stakes *G* and *H*, draw the two equilateral Triangles *H I G*, and *H L G*, *according to the firſt Obſervation of the eleventh Practice*: This done, prolong the Sides of the Triangles indefinitely, and trace them lightly, as *I H N*, and *I G M*, &c. and from theſe four Points *G H I L*, as Centers, you trace the Oval in this Manner; putting the Loop of the Cord over the Stake *G*, extend it to the Extremity *B*,

FIG. XIX.

and

and draw the Part of the Circle to the Indefinite Lines *M* and *P*, where you are to ſtop. Then ſhift the Cord of the ſame Length on the oppoſite Side, and fix the Loop upon *H*, from whence draw the other circular Segment, with the ſame Caution, to ſtop the Track when you come to the Indefinite Lines *N* and *O*, and drive ſmall Spikes in the Interſections of theſe Lines, as at the four Points *M P N O*. Then take a longer Cord, and putting the Loop over the Stake *I*, adjuſt its Length to the Point *D*, and trace the Arch *N D M*, till you come to the Track and Spikes of the circular Segments, with which the Tracing-Point ought to fall in exactly. Finiſh the Circumference of the Oval, by ſhifting the Loop of the Cord to the other Side upon the Stake *L*, from which you deſcribe, in like manner, the Arch *O C P*. Theſe two Arches joining with the circular Segments, entirely cloſe the Oval; after which, you deface the Lines that ſerved only to the Conſtruction of it, that nothing remain but the bare Track of the Oval, which will be found proportionable to, and like that of the Plan, which is ſuppoſed to be drawn by the ſame Method, as is generally made uſe of upon Paper.

OBSERVATION.

WHEN there are two Ovals to be drawn one within the other, as perhaps an Oval Walk about an Oval Baſon, according to the foregoing Practice, you have no more to do than to prolong the Lines of the Interſections, to the Breadth you would give the Walk, and from the ſame Centers draw the ſecond Oval parallel to the firſt.

THE TWENTIETH AND LAST PRACTICE.

To draw, upon the Ground, the Oval, commonly call'd the Gardeners Oval.

IF you would draw an Oval at Pleaſure, without any Plan, or that you have one upon Paper, ſuch as the Oval (*a*) whoſe Diameters are not determined by Numbers; trace upon the Ground the Line *A B*, which you are to termi-

nate with Stakes, and take thereon a Length at pleaſure, about a third, as from *A* to *C*. Set off the ſame Length from the Extremity *B* to *D*, and drive two ſtrong Stakes in the Points *C* and *D*, which are the two Centers of the Oval. Then
FIG. XX. take a Line without Loops, bring it about the Stake *D*, and extend it double to the Extremity *A*, where join the two Ends by a Loop, through which thruſt a Tracing-Point. Lead about this Point from *A* to *E*, from *E* to *F*, from *F* to *G*, &c. taking care that the Line be always equally ſtrained, and that it ſlide and turn freely about the two Stakes *C* and *D*. Continue thus to carry the Line and Tracing-Pin till you come round again to the Stake *A* from whence you ſet out; and by the different Triangles which the Line forms ſucceſſively, in lengthening and ſhortening itſelf, it deſcribes the Oval without being ſhifted, according to the moſt uſual Method of Gardeners, which has given it the Name of the Gardeners Oval.

OBSERVATION.

If you would have the Gardener's Oval paſs by four Points given upon the Ground, you have no more to do than to find
FIG. XX. the two Centers: theſe four Points being ſuppoſed to be thoſe of the extreme Diameters *A B*, and *F H*. Then take with the Cord half the longeſt Diameter *B K*, or *A K*, and from the Point *F*, or *H*, as Centers, deſcribe with the Tracing-Pin Arches of Circles cutting the Line *A B*, in the Points *D* and *C*; which ſhall be the two Centers or Focus Points for tracing the Oval, *according to the foregoing Practice.*

I DO not here enter upon the Demonſtration of theſe Practices; they being ſufficiently known to ſuch as are the leaſt skilled in Geometry: As to Gentlemen and Gardeners that will make uſe of them, they may be aſſured of their Certainty, and that they are founded upon good Principles.

CHAP. II.

Of the Manner of making or dreſſing Ground, and of digging and removing the Earth.

WHEN you have made choice of a Piece of Ground, and determin'd the Extent that is to be encloſed with Walls, the next work is to dreſs it, and bring it as near a Level as is poſſible. But, as the Ground propoſed to be wrought upon, is almoſt conſtantly found uneven and irregular, you are indiſpenſably obliged either to make it according to its natural Sloping, or to reduce it to a perfect Level.

A PIECE of Ground is ſaid to be made upon its natural Slope, when following the Situation of the Place, without carrying out or bringing in any conſiderable Quantity of Earth, you do no more than fill up the Holes, and level the Hills, ſo that the Ground be laid even and uniform throughout, according to its natural Declivity.

IN Gardens that are dry and ſtoney, there ſhould be given but little Declivity, that Advantage may be made of the Rain and Snow-water; but in moiſt Grounds ſomewhat more Slope is neceſſary to carry it off, and in thoſe that are overflowed, we make Drains and Ditches all round, to keep them dry and make them fruitful.

IT is called making a Piece of Ground perfectly level, when, by means of an Inſtrument call'd a Level, it is laid with ſuch Exactneſs, that no manner of Slope remains thro' the whole Extent of it.

'TIS very rare to find Ground that can be reduced to a perfect Level; beſides its ordinary Situation, which is conſtantly uneven, and ſomewhat ſloping, the Expence neceſſarily required to move the higher Parts of it to the lower, diſcourages People from courting this Perfection. Moſt Men chooſe rather to make Ground upon its natural Slope, ſo as to render it agreeable and inſenſible to the Eye, and ſcarce at all tireſome to the Foot; which has this Advantage too, that its Sloping ſerves as a natural Current for the Floods and Rain-Water, and if there are Baſons, they empty themſelves one into another, and are always full; the waſte Water running off, that you are not obliged to make Wells, to receive it. However, becauſe one is ſometimes obliged to lay certain Parts of a Garden to an exact Level, as the Walks about a piece of Water or of a Mall, *&c.* I ſhall here give the Manner of doing it.

They made this Obſervation in laying out the Garden of the Tuilleries.

THERE are abundance of Inſtruments made uſe of for levelling upon the Ground, every one contriving them after his own Way; and, to hear what moſt ſay, there is no Level ſo exact, as that which they have invented, and adviſe the Uſe of, excluſive of all others: But as, in Gardening, we are not to ſtand upon Niceties, and that the Uſe and Facility of a Level is what is moſt to be regarded, I ſhall propoſe but two, the Water-Level, and the ordinay common Level.

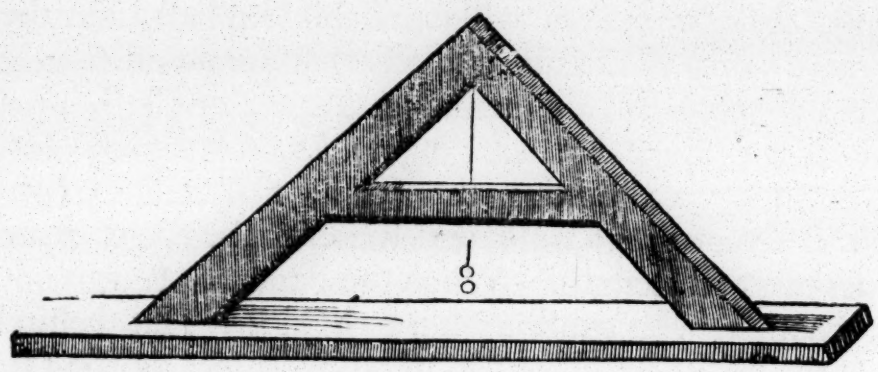
THE Water-Level is the beſt and moſt exact, and is therefore made uſe of for taking ſuch Riſings and Fallings of Ground as are conſiderable; eſpecially with relation to the conveying Water into a Garden. For which Reaſon I ſhall not ſpeak of it in this Place, but reſerve its Uſe to be ſhewn in the fourth Part of this Work, which treats of Fountains, and the Conveyance of Waters.

THE ordinary and common Level, though inferior to, and leſs exact than the other, is ſufficient, however, for the whole Buſineſs of levelling a Garden. 'Tis this Level that is commonly employ'd in Gardening, the Uſe of it is very eaſy, and the Readineſs of meeting with it every where, makes it willingly preferr'd to any other.

THIS Inſtrument is no other than a Square or Level, like that uſed by Maſons, and other Artificers, as the Figure demon-

demonſtrates. The larger it is, the better for the Work; however, three Footh Length for each Side is enough. Tho' the Uſe of it be very common, I thought it not improper to inſert it here, for the Information of the Curious, and ſuch young Perſons as are willing to improve themſelves in Gardening, reforming it from ſome Abuſes brought in among Gardeners, and adding ſome Particularities but little known, which tend to a more ready and complete Performance of the Work.

To know if this Level be true, after bringing the Plummet to bear exactly on the Notch or Stroke on one Side, turn it End for End, and if the Plummet fall directly upon the ſame Stroke the Level is true.



BUT before I proceed to the Uſe of this Level upon the Ground, it may be requiſite to make the following Obſervations.

THE Words Dreſſing, Levelling, making even and ſmooth, are equally made uſe of to ſignify the Action of harrowing or raking the Ground, to lay it every where ſmooth and even.

WE call it Settling the Ground, when, by rolling it with great wooden Rollers, or by walking and treading upon it, we render it ſo cloſe, that it cannot be preſs'd or ſunk lower.

TO range level, or trace out any thing, there muſt be at leaſt three or four Perſons employed; ſome to carry the Stakes, and to change and remove them, as ſhall be directed; others to ſtrain and ſhift the Line. You may obſerve, there is no need to ſpeak in working, eſpecially at great Diſtances, where the Voice is eaſily loſt; and as it is difficult to underſtand each other afar off, you may have Signs agreed upon between you, and ſhew with the Hand whatever you would have done: For Inſtance, if, in ranging a Stake upon a Line, the Stake ſtand too much to the Left, you muſt ſhew, by drawing your Hand to the Right Side, that the Stake

ſhould ſtand more to the Right; and ſo raiſing or lowering the Hand ſignifies, that the Stake ſhould be ſet higher or lower: which Example may ſerve for all that is poſſible to be explained by Signs.

FOR levelling you ſhould make uſe of a proper Day, when it is ſtill Weather, not too hot nor too cold; when it neither blows nor rains, and when there is not much Sun: All theſe are very injurious to the Sight, by the Refractions that make a great Diverſity in lowering or raiſing the Viſual Ray. A Day ſomething cloudy and over-caſt, is beſt for levelling, for the Stakes will then be ſeen beſt, and the Eye will more eaſily diſtinguiſh Objects that are far off.

There are Levels made with Teleſcopes.

'TIS uſual to put a Linen-Rag, Paper, or Card, upon the Head of the Stakes or Ranging-Sticks, ſlitting the Head of them a little, and putting the Paper or Card into the Slit; which is a very great Eaſe and Relief to the Sight, eſpecially in Lines of great Length. When the Paper or Rag is not ſeen plain enough, you cauſe a Man to hold his Hat behind the Stake, the white Paper appearing much plainer by the Oppoſition of the Black of the Hat; and by this means, the Perſon that bourns may more eaſily diſtinguiſh all the Heads of the Stakes.

'TIS very material in levelling, that the Heads of the Stakes be made very true, even, and of equal height; for the Line of Aim ſhould run exactly upon the Heads of them, and touch them all alike, in order to regulate the Level of the Surface of the Ground.

IT is call'd Earthing or Banking up a Stake, when, being drove into the Earth, 'tis found too high for the meaſure required; as if a Stake were ſix Foot out of the Ground, and it ſhould be but four or five, according to the Level; you then cauſe Earth to be brought, and make a Bank about the Foot of it, till it be of a due Height: ſo when a Stake is too low, you clear it at the Foot, and carry away the Earth, till it has the Height it ſhould have.

'TIS to be obſerved, that when we ſpeak of making * a Pattern-Line, or Furrow, 'tis not to open the Ground, as in planting Paliſades, which ought rather to be call'd a Trench; but 'tis to bring in Earth, and lay it along a Line ſtrained from

* Rigole, Raïon ou Repaire. *When theſe are raiſed, our Gardeners call them Pattern-Lines; and when they are cut into the Ground, Furrows.*

from one Stake to another, which forms a Pattern that ſerves to redreſs the Unevenneſs of the Ground. Theſe Pattern-Lines may be from twelve Inches to two Foot broad; the Earth ſhould be trod upon to ſettle it, and afterwards raked over with a fine Rake, till the Line juſt touches and grazes upon the Surface of it every where alike, without being confined. Furrows are ſometimes cut for the ſame Purpoſe in the ſolid Earth, when the Ground is too high, not only in Flats, but upon Banks and Slopes; in which caſe the Line is ſtrained, and the Earth cut away, till it bear equally throughout.

THEY make uſe of ſmall wooden Stakes or Spikes, which are drove down even with the Ground, and quite overhead at the Foot of the Levelling Sticks, ſetting upon them the ſtanding Meaſure, and reducing them exactly to this Height, when they would not bank up, or clear the Earth from the Stakes, which is left to a Man's own Choice. Theſe Spikes are alſo of uſe to recover the Meaſures, in caſe the Levelling-Sticks ſhould be moved, or that they ſhould be voluntarily taken up as ſtanding in the way, and to ſtrain the Line from the Head of one to the other, for making the Pattern-Lines abovemention'd.

WHEN the Ground is too uneven and rough, you muſt begin, firſt of all, to break it up with the Plough, to deſtroy the Weeds, and then harrow over every Part of it to level the Banks or Hillocks, and fill up the Cavities. This ſerves, likewiſe, to render the Earth more eaſy and friable, as well for removing and tranſporting, as for driving the Stakes, and other things neceſſary.

THERE remains no more, before I proceed to the Practice of Levelling, but to ſpeak of the Method of digging and removing Earth.

WHEN the Earth is to be dug or cut to make a Terraſs, Bank, Bowling-green, Canal, *&c.* they make uſe of Mattocks, Pick-axes, Spades, and Shovels; and there are Men who do nothing but fill the Baskets, Scuttles, and Wheelbarrows, that keep behind thoſe who dig. To forward this Work, ſuppoſing they have a great Height to cut, they undermine the Foot of it with a Pix-axe, and hollow it a little before them towards the Bottom, with this Precaution, that no body go upon the Ground above, for fear it fall, and hurt the

the Men that are working below. When they have proceeded a little to hollow it round about, they cauſe the Men to retire, and getting a top of the Ground, where ſome Pieces of Wood have been drove in, with four or five Men to help weigh upon it, they throw down vaſt quantities of Earth at once. Experience ſhews that this Method forwards the Work extremely. When they meet with Rocks or Quarries, they make uſe of Gun-powder to blow them up, cramming the Powder into the Clefts of the Rock, or Cuts made in it, or elſe putting ſome ſmall Barrels of Powder at the foot of it, which they give fire to, by Trains laid for that purpoſe; and this they call Springing a Mine.

IN digging away Ground, ſeveral Banks, which the *French* call * *Witneſſes*, ſhould be left till the Work be wholly finiſhed; theſe ſerve to meaſure the Quantity of Rubbiſh-Earth, and to pay the Diggers by, who often cheat one by taking them away and charging a greater Height of Ground than there was. Theſe Diggers, or Terraſs-Makers, in *France*, are paid by the Cubical Fathom, which ſhould have ſix Foot every way, and contain, in all, 216 Cubical Feet; whereas the ſquare Fathom has no more than 36 Superficial Feet.

* Temoins.

WE now come to the Manner of removing Earth, which is a very neceſſary Point to be known, taking notice, that it ſhould be always carried as little away as is poſſible; theſe Works being very tedious of themſelves, and an unconceivable Expence, how ſhort ſoever the Diſtance be.

THERE are four ſeveral Ways of carrying off Earth, in Carts drawn by Horſes, in Dorſers or Panniers carried by Aſſes, in Wheel-barrows, or in Baskets upon Men's backs. The beſt of the four is, without doubt, that which goes faſteſt, and coſts leaſt; but the Difficulty lies in knowing well which that is.

THE two firſt Ways are to be preferred, when the Place whither the Earth is to be carried lies far off; when it is near, Baskets and Wheel-barrows are better: by reaſon they embaraſs the Work-place leſs than the Carts or Aſſes.

CARTS with one Horſe will carry off about ten or twelve Foot Cubical of Earth, which is as much as five or ſix Turns of an Aſs that carries about two Foot Cubical in his two Panniers;

niers; but notwithſtanding this way of reckoning, Carts are always ſomewhat the deareſt.

WHEN the Diſtance is neither very far nor very near, you may make uſe either of Aſſes, or of Wheel-barrows and Baskets; and yet I am of opinion, that of Aſſes will be found the beſt, for the following Reaſon.

ALL Baskets and Wheel-barrows hold about a Foot Cubical of Earth; the Panniers that theſe Beaſts carry, hold about the ſame Quantity: But, as an Aſs has two Panniers, he carries twice as much at a time, ſo that one Turn of the Aſs is as good as two of the Basket or Wheel-barrow, and coſts very little more, though there be a Woman or little Boy to lead him. There is, beſides, a good Reaſon for preferring theſe, for that the Aſſes loiter but little, they are uſed to a certain Pace, which, tho' ſlow, forwards the Work however, becauſe 'tis conſtant from Morning to Night, without any other Interruption, than that of a Baiting-time.

IF you have a mind to make uſe of Men that drive Wheel-barrows, and carry Baskets, 'twill be abſolutely neceſſary to have People ſet over them to haſten them; theſe, in *France*, we call * *Piqueurs*, whoſe Buſineſs it is to prevent their holding Diſcourſe, and loitering the Time away one with another; and above all, that they hinder not each other, but have different Ways made for them to go and come. The Wheel-barrow-Men make five or ſix Stages, and ſometimes more, according to the Length of the Way, delivering full Barrows, and taking back empty ones, which is a way of managing pleaſant enough to look on.

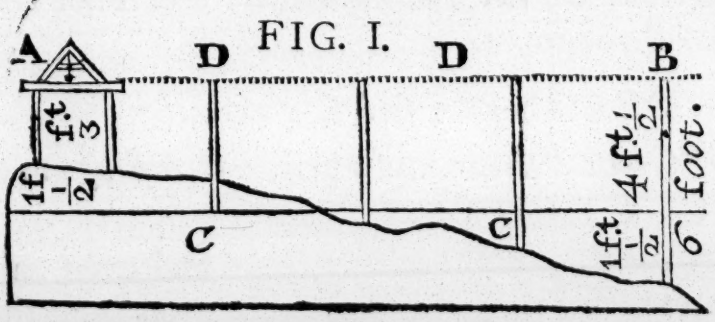
* *Foremen, or Overſeers.*

THE FIRST PRACTICE.

To ſet out a Level Line upon the Ground.

SUPPOSE the Ground be upon a flat Situation, as that of a Plain, and you would reduce it to a perfect Level, you muſt do thus: Chuſe as even a Place as you can upon one of the Extremitys of the Ground,

FIG. I.



Ground, as *A*, where fix two Stakes of five or ſix Foot high with very ſmooth Heads, for laying a Maſon's Rule upon them of eight or ten Foot long, which ſhould be very ſtrait, and ſtiff enough to lie without bending. Upon the Middle of this Rule ſet your Level, as you ſee at the End *A*, ſo that the Plummet at the End of the Line, fix'd to the Head of the Level, light and fall exactly upon the Notches made on purpoſe in the Angle, and upon the Croſs-Leg of this Inſtrument. If your Level riſe higher on one Side than the other, ſink the Stake on that ſide it riſes, till it be of the ſame Height as the other; and in this manner order theſe two Stakes, by raiſing and lowering them, till the Level be exact. Then take the Level off the Rule, and placing yourſelf at the End *A*, caſt your Eye along the Rule, and direct Stakes to be drove, at convenient Diſtances, the whole Length of the Encloſure, as from *A* to *B*; and let them be ſunk or raiſed ſo that their Heads ſtand exact to the Height of the Rule, and exceed not the Line of Aim *D D*. This done, meaſure the Stake at the End *B*, whoſe Height, for Example, let be ſix Foot: Meaſure likewiſe one of the two that bear the Rule at the End *A*, whoſe Height ſuppoſe but half the other, that is to ſay, three Foot. Take the Difference of theſe two Heights, which is three Foot, and divide it into two, which makes one Foot and a half; and cauſe a Foot and a half of Earth to be taken from the Extremity *A*, and brought to that of *B*; but take heed, in removing this Earth, you ſtir not your Stakes and your Rule, which may be of farther Service to you. You are ſure, by this Operation, to have the Line *C C* perfectly level, being parallel to the Line of Aim *D D*. The Reaſon of which is, that the Stakes having ſix Foot Height at the End *B*, and having but three at the End *A*, in lowering the Ground a Foot and a half at *A*, and raiſing it as much at *B*, the Stakes will be four Foot and a half high equally throughout.

FIG. I.

THE SECOND PRACTICE.

To lay a Piece of Ground ſtrait and even, according to a Level Line.

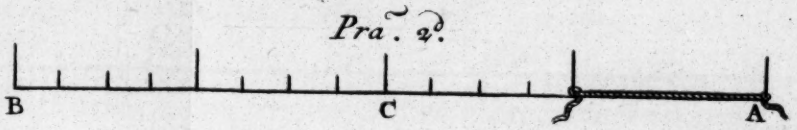
To make the Level Line *C C* entirely ſtrait and even, after you have cauſed the Earth to be moved in groſs from the End

The Ground.

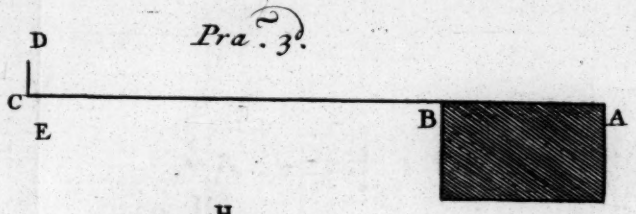
Practice 1st First.



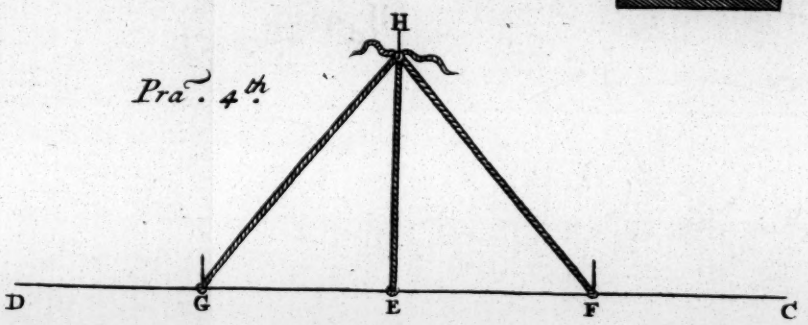
Pra. 2d.



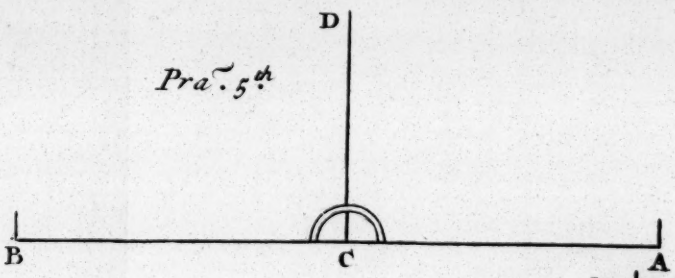
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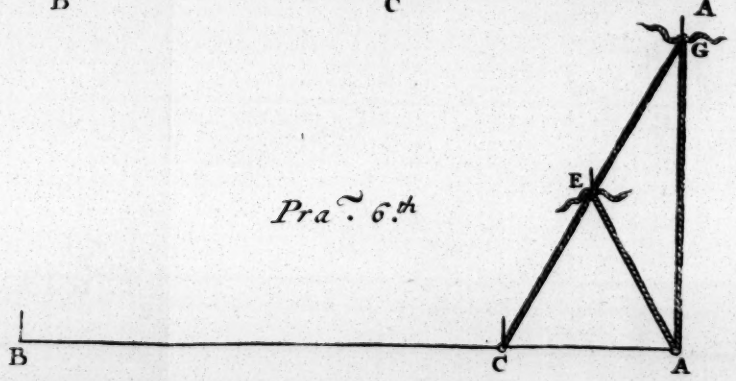
Pra. 4th.



Pra. 5th.



Pra. 6th.



The Paper.

Figure 1st.



Fig. 2d.

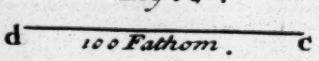


Fig. 3d.

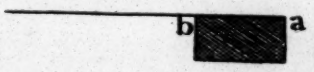


Fig. 4th.

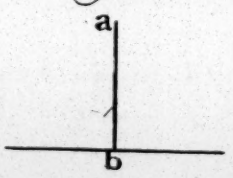


Fig. 5th.

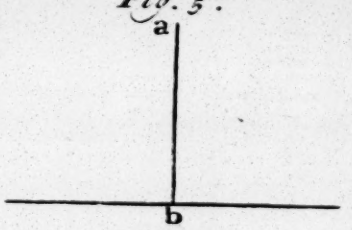
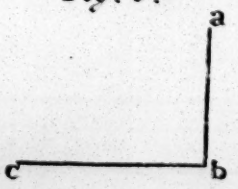


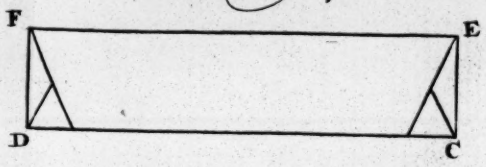
Fig. 6th.



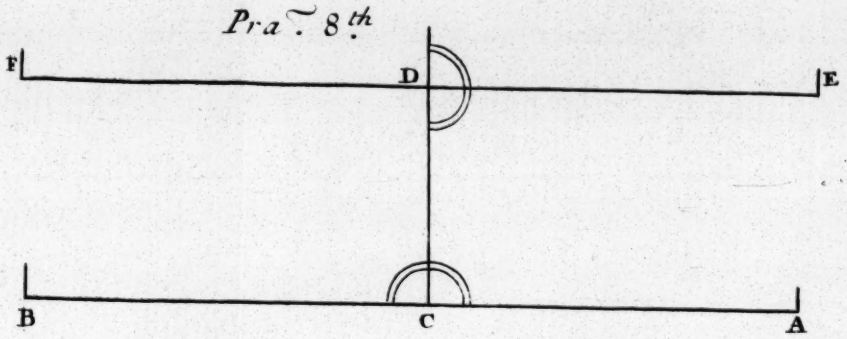
Pl. 1st E.

The Ground

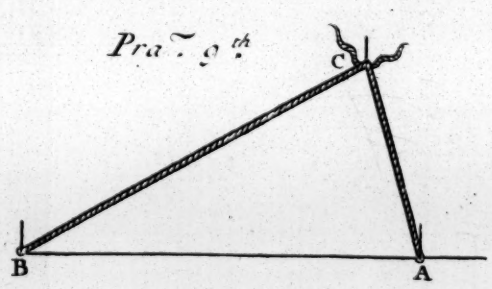
Practice of 7th.



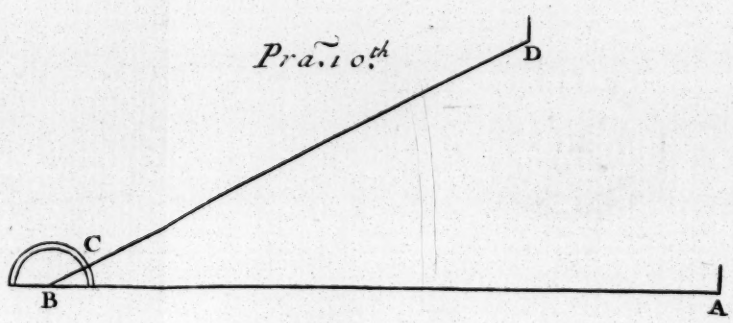
Pra. 8th.



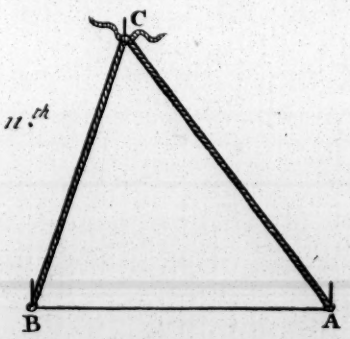
Pra. 9th.



Pra. 10th.



Pra. 11th.



The Paper

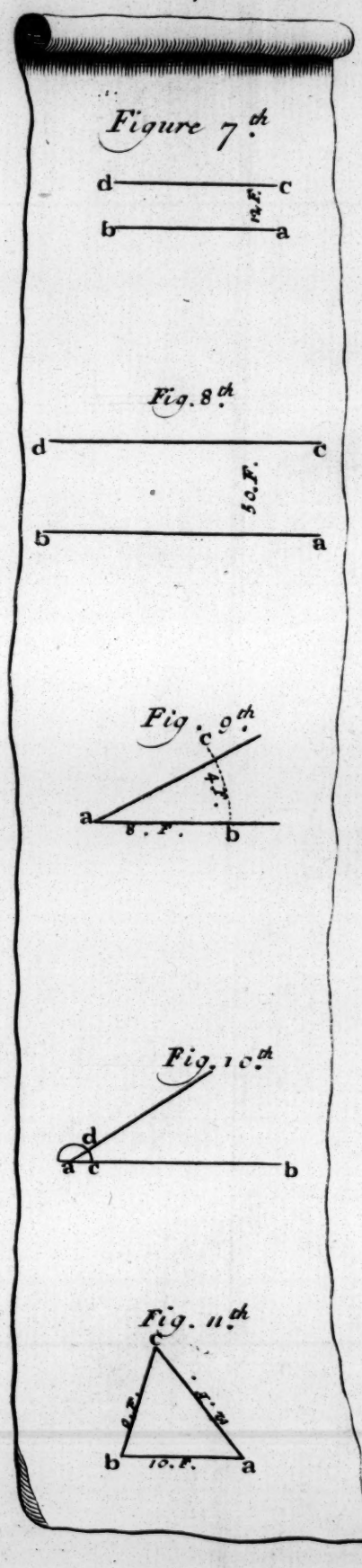


Figure 7th.

Fig. 8th.

Fig. 9th.

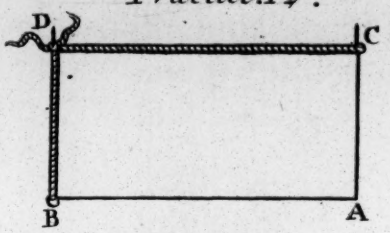
Fig. 10th.

Fig. 11th.

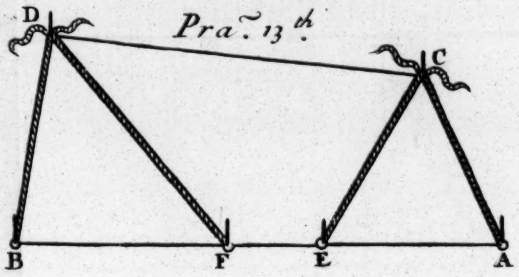
Pl. 2d. F.

The Ground.

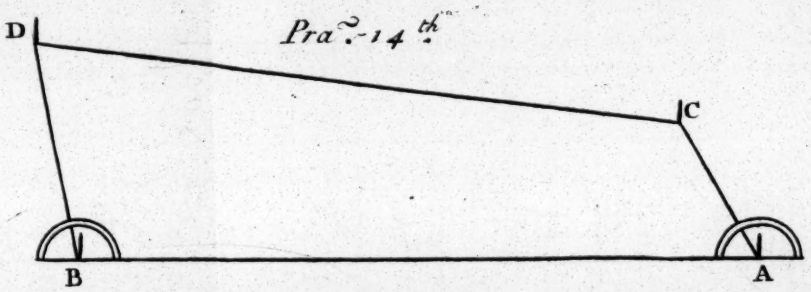
Practice. 12th.

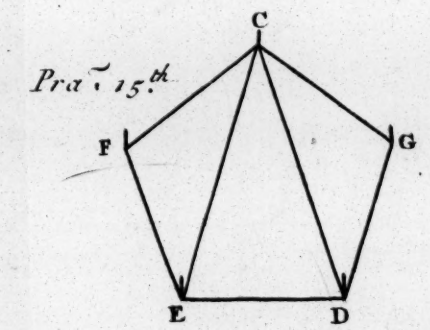


Prac. 13th.

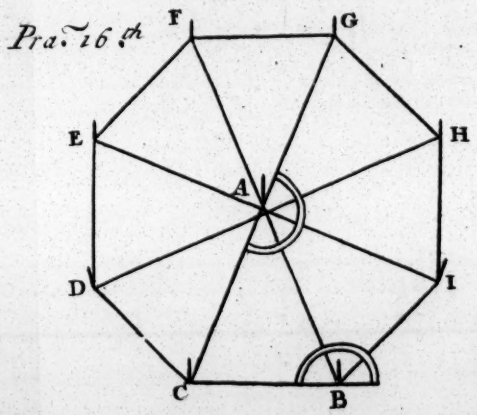


Prac. 14th.





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The Paper.

Figure 12th.

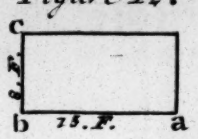


Fig. 13th.

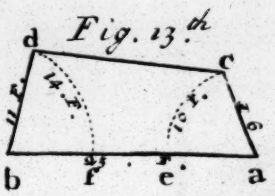


Fig. 14th.

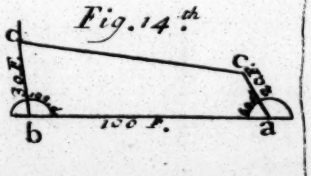


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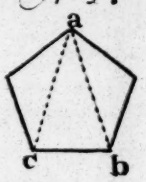
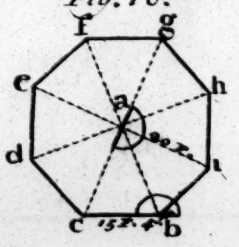


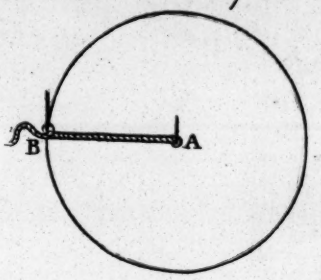
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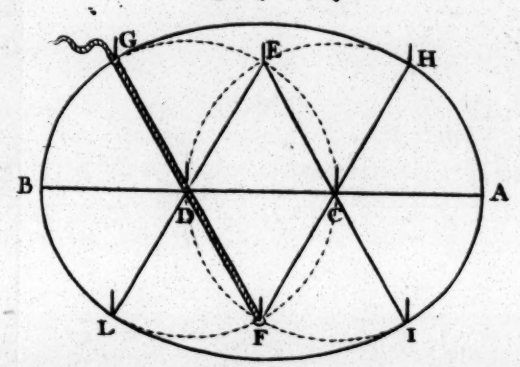
Pl. 3d. F.

The Ground

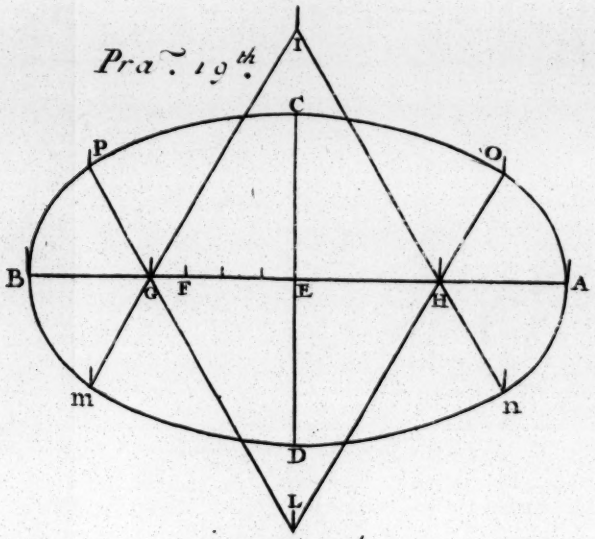
Practice. 17th.



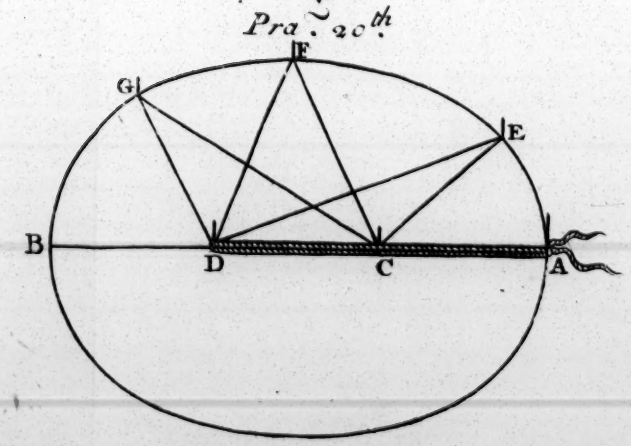
Pra. 18th.



Pra. 19th.



Pra. 20th.



The Paper

Figure 17th.

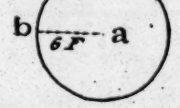


Fig. 18th.

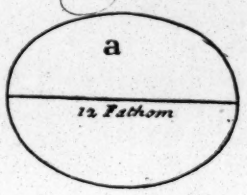


Fig. 19th.

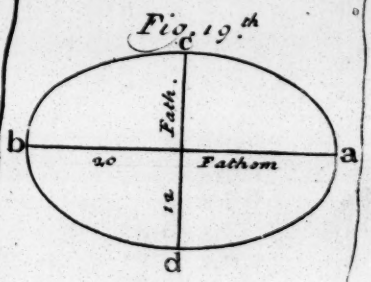
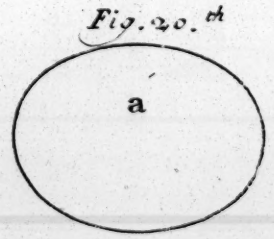


Fig. 20th.

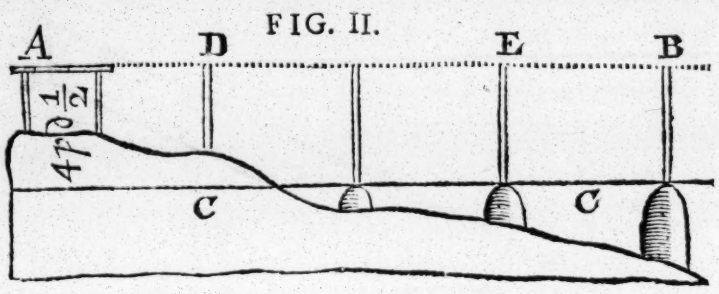


Pl. 4. F.

End *A* to that of *B*, take a very ſtrait Stick, and meaſure, at the End *A*, one of the two Stakes that bear the Rule, whoſe Height is ſuppoſed to be four Foot and a half, including the Breadth of the Rule: Cut the Stick off to this preciſe Length, which ſhall be a portable Meaſure for all other Stakes, gaging it from the Head in this Manner. Take the Stick, and apply it along the Stake *D*, which is no more, ſuppoſe, than three Foot high; and bring this Stake to four Foot and a half, by cauſing the Earth to be cleared from the Foot of it till it be of this Height. Then carry your Meaſure to the Stake *E*, which being higher than it ought, that is, more than four Foot and a half, you bank it up by cauſing Earth to be laid about the Foot of it, which you beat and ram down, leſt it ſhould ſettle. Thus, having brought the Stake *E* to a fit Height, you proceed to the others; and by the ſeveral Works inſtanced in theſe two Stakes, you order them all in like manner, directing thoſe to be banked up that are too high, and thoſe to be cleared at Foot that are not high enough. This done, you take a Line of 12 or 15 Foot long, which you tie to the Foot of the Stakes *B* and *E*, and ſtrain it as tight as you can; and in caſe the Stakes *B* and *E* are too far aſunder for your Line of 15 Foot, you ſet another Stake betwixt them of the ſame Height; you then cauſe Earth to be brought, or the Ground to be cut away along the Side of this Line, to make a Pattern-Line or Furrow; and do the ſame from Stake to Stake, ſtraining the Line, and making Furrows from one to the other, by which means you have the Line *C C* made very ſtrait, and perfectly level.

FIG. II.

FIG. II.



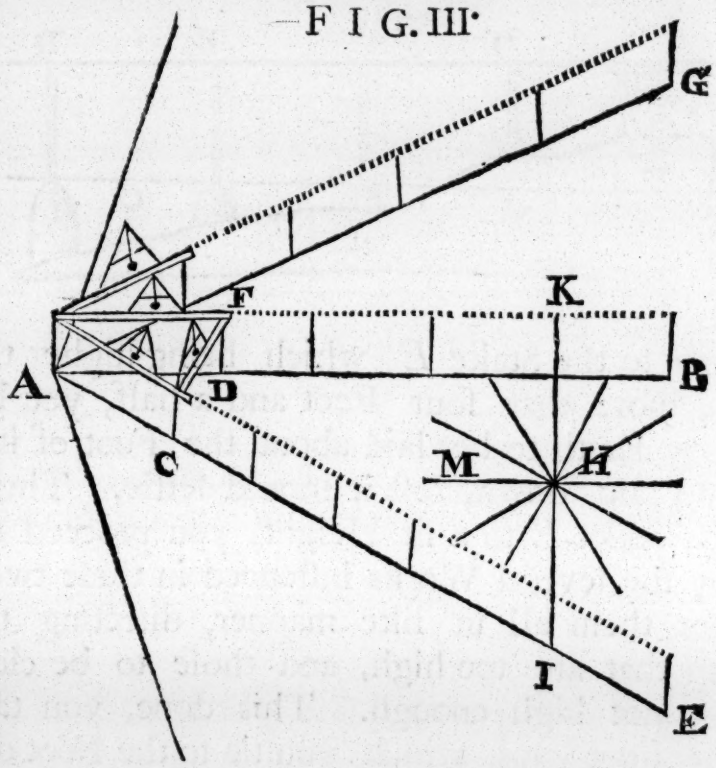
THE THIRD PRACTICE.

To dreſs an entire Piece of Ground, how large ſoever, and to lay it level.

FIG. III.

THE Pattern-Line *A B* being carefully made, *according to the foregoing Practices*, let the Stake *A* be conſider'd as immoveable, being of Uſe to perform the ſame Operation ſeveral Times, for finiſhing and laying out the whole Ground, in the following Manner. On the Line *A E* fix the Stake *C*, much about the ſame Diſtance from the immoveable Stake *A*, as that at *D*, from which it ſhould not be diſtant above three or four Foot at moſt. Then lay the Rule,

FIG. III.



and adjuſt the Level upon the Stakes *A* and *C*; and to prove the Truth of this Operation, do the ſame over the Stakes *C* and *D*, which with the two Lines *A B* and *A E* form a Triangle, and may ſatisfy you of the Exactneſs of your Performance, if all three agree. Then ſtake out, *by the firſt Practice*, the Line *A E*; and, *by the ſecond*, lay it exactly level, making a Pattern-Line of Earth. This done, place another Stake, as *F*, about the ſame Diſtance from the immoveable Stake *A*, as the Stakes *C* and *D* were, and about three Foot likewiſe from the Stake *D*. Set the Level upon this for directing the Line *A G*, proving the Truth of the Work, as was now mention'd, that is to ſay, by laying the Level acroſs again upon the Stakes *D* and *F*. Finiſh the Line *A G* in the ſame

Manner

Manner you did the Line *AE*, and ſo continue to direct the Levels, and make Pattern-Lines throughout the whole Ground, obſerving to keep theſe Lines much about the ſame Diſtance one from another, as thoſe that are already made; which being done with all neceſſary Exactneſs, you complete the Making of the whole Ground, by cauſing a Line to be held by two Men, who are to ſtrain it very tight acroſs from one Pattern to another, or rather from one Stake to another, by the help of which you take off the Banks, and fill up the Cavities between the Patterns, raking it all over: But as towards the Extremities of the Lines *BEG*, the Pattern-Lines are ſometimes ſo far aſunder, that the Cord can't be conveniently ſtrained from one to the other, you may remedy this Inconveniency, by planting the Stake *H* between the two Pattern-Lines *AE* and *AB*, ſo that the Head of it range with two of the Stakes already ſet, as *I* and *K*. Adjuſt the Stake *H* to the Height of the others, and tying a Line to the Foot of it, you ſtrain it every way, filling in or taking away Earth, as Occaſion requires; and following it with the Rake, which levels the Space contained between the Stakes *IKEBM*. Do the ſame for levelling the Places between the other Pattern-Lines, which will make your Ground, how large ſoever, equally ſmooth and even throughout.

OBSERVATION.

As in a large Garden it would be very expenſive to make the whole Ground according to this Rule, it may ſuffice to dreſs and lay even the Places expoſed to Sight, ſuch as are to ſerve for Parterres, Halls, Galleries, Cabinets, *&c.* and for thoſe that are deſigned for Wood, you dreſs only the Walks and Ridings, leaving the Squares and Middle-Parts of the Wood uneven and natural, as you found them.

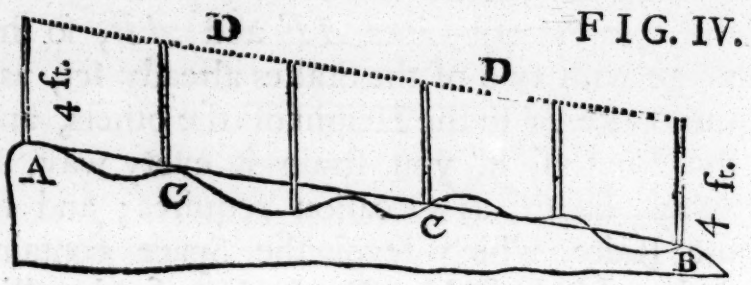
THE FOURTH PRACTICE.

To dreſs a Piece of Ground upon a Hanging or Slope-Line.

FIG. IV.

WHEN you meet with Ground naturally ſituated upon an eaſy Riſe, and would not be at the Charge of removing all the Earth, to reduce it to a perfect Level; you may dreſs it upon its natural Slope, in ſuch Manner, however, that the Riſe may be ſo eaſy and imperceptible, as not to be diſcerned in Walking, as it may be half an Inch or an Inch in a Fathom, upon the Length of the Hill-Side; to perform which, you do thus: Fix a Stake about four Foot high out of Ground, upon the uppermoſt Part of the Piece, as at *A*, levelling a little Spot for that Purpoſe; and fix another of the like Height at the End *B*, which is ſuppoſed to be the loweſt Part of the Ground; then plant as many Stakes as are neceſſary betwixt theſe two, keeping their Heads in a Line with the Heads of *A* and *B*, that they exceed not the Viſual Ray *DD*. After which, take a Gage-Stick, or portable Meaſure of four Foot long, and apply it to all the Stakes, reducing them to the proper Height of four Foot, by earthing them up, or digging away the Ground, as Occaſion requires. This done, make a ſloping Pattern-Line from *A* to *B*, as is taught *in the ſecond Practice*; by which you are to take away the Serpentine Surface, and correct the Inequality of the Ground, which ſhould be laid very true, according to the Slope-Line *C C*.

FIG. IV.



THE FIRST OBSERVATION.

IF you would lay out the whole Ground upon a gentle Slope, you are to perform the ſame Work ſeveral Times through the whole Extent of it, and finiſh it by Pattern-

Lines and the Cord, as was juſt now ſhewn *in the foregoing Practice*, with this Difference only, that the Pattern-Lines muſt be ſloping.

THE SECOND OBSERVATION.

I MUST not omit to mention here, that the Place you deſign for a Parterre, after having been dreſſed as above-mentioned, requires ſtill another Work, which is to clear it of the Stones, and to run the upper Part of the Earth through the Screen, and to ſmooth it afterwards with a fine Rake: Without this, it will not be fit to be chequer'd, and to trace out the Branch-work of the Embroidery.

THIS is the beſt way that I know, to level and to dreſs Ground, and the eaſieſt and leaſt puzzling in the Execution. Here are none of the ill Cuſtoms that are ordinarily follow'd by ſuch as undertake to level; amongſt others, that of lying along upon their Bellies, and digging Holes in the Ground to ſit in, or kneeling down to the Height of the Ruler.

HAVING thus deliver'd the Practice of Dreſſing Ground, ſituate either upon a Flat, or an eaſy Slope; there now remains only to ſpeak of the Manner of making a Ground ſeated upon a Mountain or Hill-Side, which can be done no otherwiſe, than by the Help of Terraſſes; and this is what is to be found in the following Chapter.

CHAP.

CHAP. III.

Of different Terraſſes and Stairs, with their moſt exact Proportions.

'TIS in this the greateſt Expence of a Garden conſiſts, and about which you ought to take the greateſt Care, when there is an abſolute Neceſſity, by reaſon of the too quick Declivity of the Ground, to ſupport the Earth with Terraſſes. There is no Diſpute but the Tranſporting and Removing of Earth is a vaſt and exceſſive Charge; yet 'tis an Expence ſo little ſeen, that though one of the moſt conſiderable, it does the leaſt Credit to its Maſter. We are apt to think, when we ſee a Garden well made, with Terraſſes exactly level and well ſupported, that it muſt have been diſpoſed ſo by Nature; ſo that to know any thing of Works of this kind, we muſt have ſeen them performed, for they are hardly to be apprehended, when finiſhed and complete. You can't then be too circumſpect and wary in Undertakings of this Sort, if you would avoid the Follies and Miſtakes that ſome Men daily run into.

WHEN you meet with a Piece of Ground whoſe Shelving
FIG. I. is very ſteep, as perhaps of the Hill *A*, which you would make practicable for a Garden, it may be order'd three ſeveral Ways.

Firſt, By making Terraſſes one above another, at ſeveral
FIG. II. Heights, and ſupporting the Earth with ſufficient Walls of Maſonry.

Secondly, By making ſuch Terraſſes, as will ſupport them-
FIG. III. ſelves without a Wall, by means of Banks and Slopes cut at the Extremity of every Terraſs.

THE *Third* Way is, to make no Terraſſes in ſtrait Lines, nor long Flats between; but only to contrive Landing-Places, or Reſts, at ſeveral Heights, and eaſy Aſcents and Flights

of

of Steps for Communication, with * Foot-Paces, Counter-Terraſſes, Volutes, Rolls, Banks, and Slopes of Graſs, placed and diſpoſed with Symmetry, which are called Amphitheatres. Theſe Amphitheatres are adorn'd with Flowering-Shrubs, Yews, and Horn-beam-Hedges breaſt-high, with Vaſes, Caſes, and Flower-Pots, ſet upon Plinths of Stone. Nor muſt Figures and Fountains be here left out, as making the Perfection of theſe Pieces, whoſe Diverſity, as well in the diſpoſing, as in what they conſiſt of, yields a very agreeable Proſpect to the Eye, as may be ſeen in the Deſign here given. FIG. IV.

* Eſtrade *is properly the Step on which the Bed is ſet in an Alcove, or upon which a Throne is raiſed.*

OF theſe three Manners, that with the Slopes is the leaſt Expence, and that of the Amphitheatre the moſt magnificent; ſo that Terraſs-Walls may be reckon'd to hold a Mean between the other two: That ought always to be choſen, which agrees beſt with the Situation of the Place, and the Charge one would be at in the Performance.

THE Architect, or he that is to give the Deſign of a Garden, ſhould carefully conſider the Slope and Winding of the Hill, and raiſe and deſcribe the Profil of it very correctly; that by making the beſt Advantage of the Situation, and diſtributing its Terraſſes with Husbandry and Diſcretion, there may not be a great deal of Earth to remove, but that what is taken from Places that are too high, may ſerve to raiſe and make good thoſe that are too low, which ſhould be done with ſuch Prudence and Circumſpection, that you ſhould neither be obliged to bring in the Earth, nor have any to carry away, when your Terraſſes are finiſhed.

I SHALL obſerve the ſame Order here, as I have done in the foregoing Chapters; explaining certain Terms, and making ſome neceſſary Obſervations, before I enter upon the Practice of the Conſtruction of Terraſſes. The Obſervations that are in theſe three Chapters, though ſeparated, have ſuch Relation to each other, that they may equally ſerve every where; but as they would have been too long and tedious all together, I have endeavour'd to ſet each of them in its proper Place, and to chuſe ſuch as ſuit beſt with the Subject of each Chapter.

TERRASSES ſhould not be made too frequent, nor too near one another; that is, you ſhould always make as few of

them

* Plein-pied.

them as poſſible; and by means of * Levels, or Flats, continued as long as the Ground will permit, avoid the Defect of heaping Terraſs upon Terraſs, there being nothing more diſagreeable in a Garden than to be conſtantly going Up-hill, or Down-hill, without finding ſcarce any Reſting-Place.

Meudon, tho' a fine place, is one of the moſt tireſome Gardens that are.

WHAT we call the Level, or Flat, is the Space of Ground contained between the Slopes of two Terraſſes; that is to ſay, the Platform ſuſtained by the Walls or Banks of the Terraſſes, which, in Fortification, is call'd the *Terra-plain.*

WHAT is meant by taking the Profil of a Mountain, is, to level the Slope of it exactly, and to quote all the Stations upon the Plan, for gaining preciſely the Crooks and Windings, to which regard muſt be had in the general Diſpoſition of the Garden.

'TIS called Obſerving Downwards, which is a Term much in uſe among Workmen, when they begin to reckon from the Top of a Pole, Deſcending, to ſet off any Meaſure; as 'tis called, on the contrary, Obſerving Upwards, when they begin Below, and work Aſcending.

IN the following Operations, the ſame Level is made uſe of, and is applied in the ſame manner, as was taught in the preceding Chapter; and ſo likewiſe are the Line and the Rake for evening and ſmoothing the Ground, and for making the Pattern-Lines and Furrows.

TO the Uſe of Stakes and Spikes, muſt be here added that of long Poles of 15 or 20 Foot length, becauſe Stakes are too ſhort for levelling Stations upon the Deſcent of a Mountain. Theſe Poles are ſet upright on end by a Plum Rule, and at top of them is fixed a piece of white Paper cut ſquare.

THE Place where the Level is ſet for performing the Work of Levelling, is called the Station, ſo that one Caſt of the Level is contained between two Stations.

† Ligne d'arrêt.

THE † Verge-Line, in the Buſineſs of Terraſſes, is the Place where the Corner of a Wall, or the Bank of a Terraſs, comes to terminate.

THERE are alſo ſome other Terms in Uſe among the French, *which I ſhall not take upon me to explain, being nothing to the purpoſe of the* Engliſh *Gardener.*

YOU

YOU muſt conſtantly obſerve to lay your Terraſſes, with a ſmall inſenſible Declivity for carrying off the Water, as an Inch, or half an Inch in a Fathom, on the Length of the Terraſs: And this Shelving is always to be made * lengthwiſe of the Terraſs, and never breadthwiſe.

'TIS much better to cut your Banks out of the ſolid Earth than to build them up with made Ground and Hurdles; they keep infinitely better when they are of the natural Earth, and coſt leſs the Making: However, when you cannot do otherwiſe, you muſt make uſe of Hurdles and Faſcines, as is taught at the End of this Chapter.

* *What is here called the Length of the Terraſs, is moſt commonly the Breadth of it in our Gardens; but this Fall is always to be underſtood to drop the ſame way as the Side of the Hill does.*

THE FIRST PRACTICE.

To cut a Hill lengthwiſe into Terraſſes ſuſtained by Walls of Maſonry.

LET the Steps of the Building *A*, ſituate upon the Top of a Hill, be the Place where you would have the firſt Terraſs begin: Meaſure upon the Profil, *Fig.* 2. the Length of this Terraſs, which is quoted 30 Fathom; and let a pretty long Pole be held at the End of 30 Fathom, as at *B*, *Fig.* 5. putting a Piece of Paper or Linen-Rag about the upper End of it. Make a little Spot ſmooth at the Foot of the Building, as at *A*, and plant your Level there for making a Pattern-Line, as was taught above *in the firſt Practice of the foregoing Chapter*; with this Remark, to ſink or raiſe the Pole at *B*, till the Head or upper End of it be exactly in a Line with the other Heads of the Stakes, that is to ſay, till it range preciſely with the Line of Aim *E*. Set this Pole very upright, by a Plum-Rule, and work up the Foot of it with Rubble in Mortar, for fear its own Weight, or the Wind, ſhould throw it down, it not being ſufficient barely to drive it into the Ground, as you do the Stakes. Then take the Height of one of the Stakes that bear the Ruler upon which the Level was ſet, including alſo the Breadth of the ſaid Ruler, all which is here ſuppoſed to be four Foot; and meaſure four Foot downwards upon the Pole *B*, adding what is neceſſary for the Declivity, or Fall, in 30 Fathom, which here may be 15 Inches, making in all

FIG. V.

five Foot three Inches, which being marked upon the Pole with a Piece of Charcoal, determines the Level and Fall of the Terraſs. This done, meaſure the Height the Terraſs ought to have, according to the Profil, *Fig.* 2. which is quoted 15 Foot, and ſet 15 Foot downwards again from the Charcoal Mark before made, and let the Foot of the Pole be cleared or banked up as the Ground requires, exactly to this Height. In like manner make a little Spot even at the Foot of the Pole *B*, as you did at *A*, for ſetting the Level; and let another Pole be planted at *C*, according to the Diſtance ſpecified in the Profil, thus repeating the ſame Work at every Station down to *D*, you dreſs all the Lines of your ſeveral Levellings.

OBSERVATION.

THIS Work being done, affords you only one ſingle Line upon the Length of the Hill, and at one of its Extremities; wherefore, to complete the entire Making of your Ground, the following Practice muſt be added.

THE SECOND PRACTICE.

To make the whole Ground of a Hill breadthwiſe, cutting it into Terraſſes, ſupported by Walls of Maſonry.

FIG. VI.

SUPPOSE the foregoing Work to be done from the Top of the Hill *A*, where the Building ſtands, to the Bottom *D*, in as many Stations as there are Terraſſes; you muſt do as much at the other End *F*, firſt making a Level Line from *A* to *F*, near a Parallel to the Building. Place the Level upon the Line *A F*, fixing a new Stake to bear the Rule, and make uſe of the Corner Stake *A*, *according to the third Practice of the preceding Chapter*; and make a Pattern-Line or Furrow from *A* to *F*, planting a Stake at *F*, which muſt be brought to the exact Height of that at *A*, for ſetting the Rule and Level upon it, as you ſee at *F*; then going down the Hill from *F* to *I*, make the ſame Number of Stations as you did at the other End from *A* to *B*, always obſerving to make the Terraſſes of the ſame Lengths and Breadths, as near as poſſible; and at every Station carrying

a

a Level Line acroſs from one Pole to the other, as from *B* to *G*, from *C* to *H*, and from *D* to *I*, to regulate the Level of each Flat. This done, you lay the whole Extent of theſe Terraſſes to rights, by the help of Furrows and Pattern-Lines made down the Middle, and from Side to Side, anſwering the Level of the two Lines at the Extremities *A* and *F*, *according to the third Practice of the foregoing Chapter.*

OBSERVATION.

YOU cannot finiſh the Verge-Line of the Terraſſes till after the Walls are built: When that is done, you may fill up the Holes to the Level of the Ground, which is uſually kept for the laſt Work, to take up the Earth that may poſſibly remain to be diſpoſed of.

THE THIRD PRACTICE.

To cut a Hill Lengthwiſe into Terraſſes, ſupported by Banks and Slopes of Turf.

IF, by reaſon of the Expence, you would not ſupport your Terraſſes with Walls, but content yourſelf with cutting the Ground into Slopes, which is the ſecond Manner of making the Hill *A* practicable, *Fig.* 1. place your Level at the Foot of the Building *A*, *according to the firſt Practice of this Chapter*, Fig. 5. and meaſure upon the Profil, *Fig.* 3. the Length of the upper Terraſs, which is quoted 30 Fathom; carry this Meaſure from the Foot of the Building *A*, and plant a Stake at the Extremity of it, as at *B*, which ſhall terminate the Verge of the firſt Slope. Cauſe a Pole to be held ſix Foot beyond it, which, according to the Profil, is the Foot of the Slope as at *C*; and borning it to the exact Height of the other Stakes, ſet it very upright, and work up the Foot of it as before mentioned. Mark upon this Pole downwards, the Height of the Stakes, the Thickneſs of the Ruler, and the little Fall for carrying off the Water; and ſetting all this from the Top of the Pole, make there a black Mark, which ſhall determine the Level-Line of the Terraſs. After which, you carry a Pattern-Line FIG. VII.

from *A* to *B*. Meaſure downwards again upon the Pole from this Mark, the Height the Terraſs ſhould have, which is ſuppoſed to be 10 Foot; and bank up, or clear away the Earth from the Foot of the Pole, till it be of the right Height; and ſtraining a Cord from the Foot of the Pole *C*, which determines the Bottom of the Slope, to the Foot of the Stake *B* above, which determines the Verge, you cut this Bank with the Spade, making a Furrow or Pattern-Line by the Cord; after which, you remove the Level to *C*, *D*, *&c.* where you always perform the ſame Work to the very Bottom of the Hill *E*.

THE FOURTH PRACTICE.

To make the whole Ground of a Hill breadthwiſe, by cutting it into Terraſſes, ſupported by Banks and Slopes of Turf.

To cut the whole Hill *A* into Slopes, and to dreſs it throughout, I ſuppoſe the Work abovementioned to be done upon the Profil, from the Building *A* to the Foot of the Hill *E*. You muſt then begin to do the ſame at the other end *F*, by making a level Pattern-Line from *A* to *F*, *as was done in the ſecond Practice of this Chapter.* Placing the Level at *F*, you make the ſame Stations from *F* to *G*, from *G* to *H*, from *H* to *I*, at the Bottom; as you did on the other ſide from *A* to *E*, ſtill obſerving the ſame Lengths and Breadths of the Flats, and to make at every Station a very level Pattern-Line from ſide to ſide. This done, before you cut the Slope, dreſs the whole Extent of your Flats throughout, *according to the third Practice of the foregoing Chapter.*

FIG. VIII.

As for the Banks, to cut them well, and make them exact to their Slope, you muſt, upon the Line *K L*, which determines the Verge-Line of the firſt Slope, drive a Row of ſhort Stakes at every twelve Foot Diſtance, and ſet the like Number at the ſame Diſtance in the Line *M N*, which terminates the Foot of the Slope. Then ſtrain a Cord from every Stake to its Oppoſite, and make a Pattern-Line or Furrow, a Foot broad, from Stake to Stake. For making the Slope, which is thus interſected by Furrows, do as is deſcribed upon the ſecond Terraſs at *O*; put the Loop of the Line upon any one Stake, no matter which, and ſtrain, and

carry it about, every way, from one Furrow to another; following it with a Man, to cut and clear away with his Spade thoſe Places where the Earth lies too high, and keeping exactly to the Line without forcing it any way; thus making a Communication between one Furrow and another, you lay the whole Slope perfectly ſmooth and even with the Rake.

THE FIRST OBSERVATION.

IF the Situation be ſuch, that the Slope cannot be cut out of the ſolid Ground, you muſt then bring in Earth to make Pattern-Lines at every twelve Foot diſtance, and ſettle and dreſs the ſame by the Cord, till every Place lie full and handſome, without forcing or bearing it up; and then fill up the Spaces between, dreſſing the whole Length of the Slope, in the ſame manner as was juſt now delivered.

THE SECOND OBSERVATION.

WHEN the Slope does not exceed ſeven or eight Foot, inſtead of the Cord, you may make uſe of a Maſon's long Ruler, that is pretty thick, and will not warp, which you bed and apply upon the Slope, and dreſs the whole Surface of it by, provided ſtill that the Edges of the Ground, above and below, are laid very level. This Method is of great uſe for the ſhort Slopes of Terraſſes and Bowling-Greens.

I SHALL not give any particular Practice here for the Buſineſs of making an Amphitheatre upon the Side of a Hill, which would be unneceſſary, becauſe theſe Pieces being compoſed of Terraſſes, Banks, and Slopes of Turf, you need only follow what has been delivered concerning them in the foregoing Practices.

IF your Slopes are not cut in the ſolid Ground, and the Earth brought in to make them can't ſupport itſelf, there is then required a great deal more Work in their Conſtruction, and you will be obliged to make uſe of wattled Hurdles and Faſcines, in the following manner.

AFTER

AFTER having laid the Earth one Foot high, beginning at Bottom, you muſt ſpread upon it a Bed of Faſcines, or Hurdles, ſix Foot wide, in Rows one againſt another, and diſpoſe them ſo, that the great Ends, or Roots, may lie next the Face of the Slope, and come within a Foot of the Surface; then lay another Bed of Earth upon this, and continue the ſame to the Top.

THE beſt Faſcines and Hurdles are thoſe made of green Wood, as the Branches and Boughs of Willow, becauſe eaſily taking Root, they faſten themſelves the better in the Ground. It is good to leave their Roots, where they are not troubleſome, for that they may be of uſe to maintain the Band. Over this Wattled-Work, you lay the Turf, after covering it with half a Foot of Earth.

FOR the Proportion of Banks, they uſually give them Two Thirds of their Height, that they be not too ſteep; and ſometimes but a Half, or a Third of it, eſpecially in little ones. Some make the Baſe of their Slopes equal to their Height, others lay them with a Line below the Diagonal of the Square, becauſe the Moiſture falling always downwards, the Top becomes dry in Summer, which makes the Graſs wither and die away.

THE Nature of the Ground, upon which you raiſe theſe Banks of Turf, ſhould alſo be conſidered; for, if the Earth be of a ſtrong Body, and of a binding Quality, it will almoſt ſupport itſelf, and the Allowance of ſix Inches to a Foot in Height, will be enough to keep the Bank up very well; whereas, if the Earth be looſe and gravelly, nine Inches to a Foot is the leaſt you can give it.

AS to Terraſs-Walls, you ſhould, before you build them, conſult the natural Bottom of the Soil; for the Maſonry ſhould be ſet upon firm Ground, and a good Earth. In Ground that is ſandy, looſe, and boggy, they make uſe of Gratings of Timber-Work, Flooring-Pieces, Plates, and Piles, for ſecuring the Foundations of the Walls.

THE Diminution and Battering of Walls, ſhould be in proportion to their Height, becauſe of the Thruſt of the Ground. For very high Walls, you may make them batter a fifth or ſixth Part of their Height, that is to ſay, two Inches in a Foot; for Walls from 15 to 20 Foot high, an Eighth Part;

Part; and from 12 to 15 Foot high a ninth Part; for low Walls of ſix or ſeven Foot high, a Twelfth Part; and ſo of others: Their Thickneſs alſo ſhould bear proportion to their Height, and the Nature of the Ground.

TO come now to Stairs: You ſhould always place them as advantageouſly as poſſible, as at the lower End of the Walk of a Parterre, or facing ſome of the principal Lines, and never in Obſcure and By-places. They ſhould alſo be ſet at ſuch Diſtances that one need not go far to find a place to go down. They are ordinarily built with Steps of Maſonry, but may be made of Graſs, which when well kept, are very agreeable to the Eye.

YOU ſhould obſerve to make your Stairs of very eaſy Aſcent, and the Steps as few as poſſible: Their Number ſhould be unequal, and ſhould never exceed 11 or 13 in a Flight, without a Half-Pace, or Reſt of two Paces broad, and as long as the Going of the Stairs. Each Step may have 15 or 16 Inches Tread, to five or ſix Inches Riſe, or Height, including a quarter of an Inch Fall, which each Step ought to have for carrying off the Water, that otherwiſe would injure the Joints, where one Step is ſet upon the other.

ASCENTS without Steps, ſhould be taken as far as conveniently may be; to avoid too great a Steepneſs, they are generally ſupported by Terraſs-Walls, or Slopes of Turf; and to hinder the Torrents of Wet from ſpoiling them, there are Checks of Graſs, or Wood, laid at certain Diſtances, to turn the Water off to the Sides.

THE two firſt Plates that follow, afford Examples of all ſorts of Stone-Stairs proper for fine Gardens: The firſt of theſe Plates contains four Aſcents of Stairs, that are executed in the Royal Palaces; the Ornament and Beauty of which, may be conſulted on the Place. I have given the Plan, and upright Elevation of each, with the Scale, that you may judge of their Proportion.

THE firſt Figure is the great Stairs in the Garden of Monſieur the Duke of *Orleans* at *St. Cloud*, which leads from the Caſtle to the Caſcades.

THE ſecond Figure is the little Stair in the Garden of *Luxembourg* at *Paris*; the Plan of which is very ingeniouſ-

ly

ly diſpoſed; it is ſituated in the middle of the Terraſſes, over-againſt the Baſon.

THE third and fourth Figures repreſent two Stairs of the Garden of the *Tuilleries* at *Paris*. The biggeſt is ſeated at the End of the Garden, as you go down from the Terraſs by the Side of the River to the great Octangular Baſon; and the leſſer is upon the Terraſs, by the Side of the Riding-houſe.

THE ſecond Plate contains ſeven ſeveral Stairs which are not yet executed. The great one differs from the others, in that you go up at each End of it; as you ſee by its Plan and Elevation, *Fig.* 1. After the firſt four or five Steps, you have a Half-Pace, and a Flight, that leads you to the Terraſs above. The Compoſition of it is particular enough; and tho' adorned with plain Pannels only, is yet enriched in the Middle with a fine Baſs-Relievo, and Ruſtick-Work: This Stair is proper only for a Place, where the Middle is taken up by a Parterre, or ſuch like Work, and where the Walks lie upon the Sides that anſwer the two Aſcents.

IN the ſecond and third Figures, are two Stairs at the Corner of a Terraſs; one is of an octangular Form, and the other a perfect Square: They are ſuppoſed to be upon the Point of a Wood, with a Seat placed where the Angle is chamfered off, and two Terraſs-Walks that meet and make the Corner. Theſe Stairs have a Deſcent facing each Walk, together with a large Half-Pace and Steps that lead to the Bottom.

IN the fourth Figure, you ſee a Stair of a very ſingular Contrivance, which is proper at the End of a Gooſe-foot cut in a Wood; its Form is Oval; and fronting each Walk, there are Deſcents, with ſmall Banks of Graſs betwixt, lined with Tablets of Stone, which interrupt the Flight; and above are Yews planted regularly, for Ornament. Theſe three Deſcents bring you upon a large Oval Half-Pace; from whence, by other circular Steps, you go down to the Gardens below.

IN the three following Figures, are little Stairs that are very plain; one of which is contrived for the middle of a Bank of Turf, *Fig.* 5. the other is a Stair Horſeſhoe-faſhion, *Fig.* 6. with a Fountain between the two Flights; the whole accom-

fig: 1st.

The Hill to be cut into Terrasses.

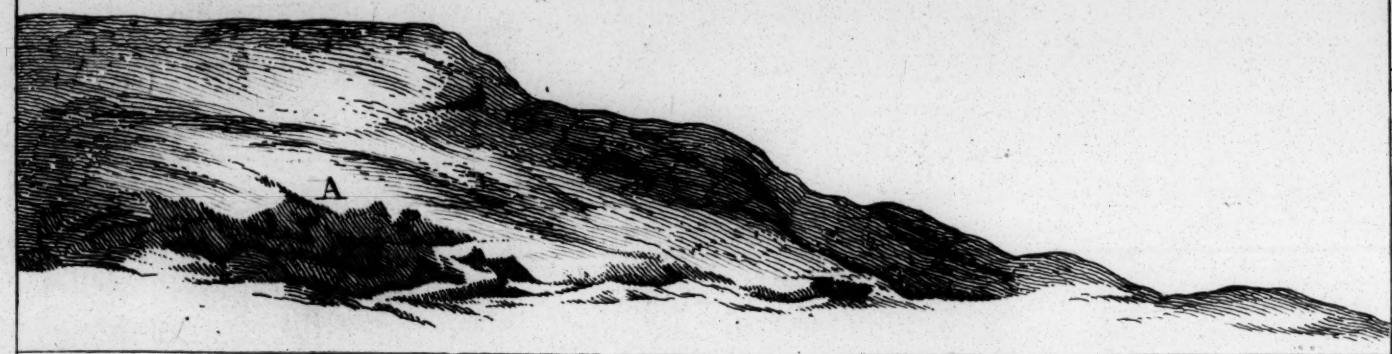


fig: 2d.

The Profil of the Terrasses to be Supported by Walls of Masonry.

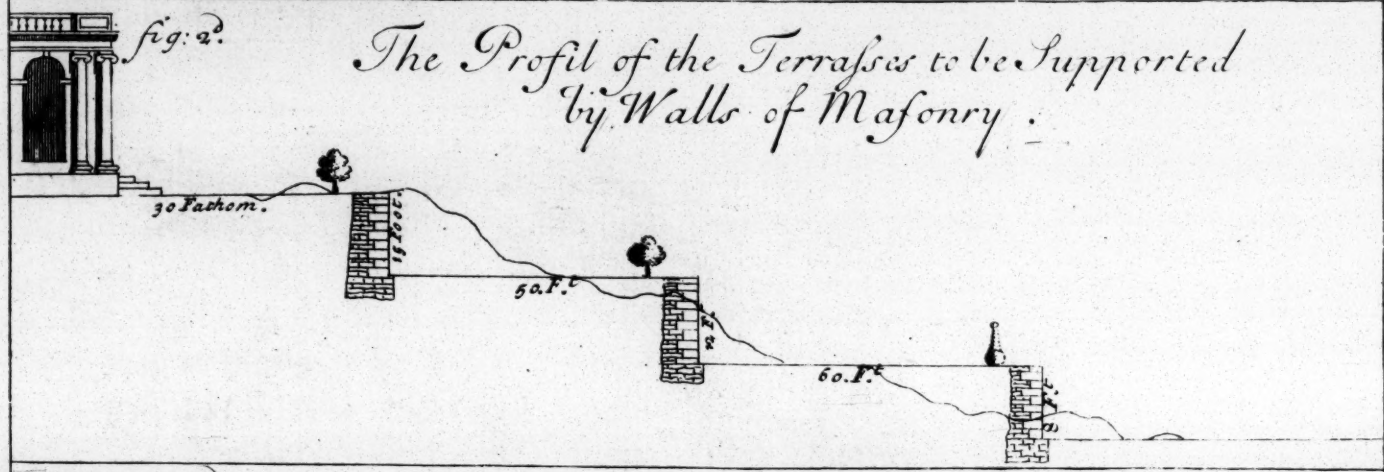
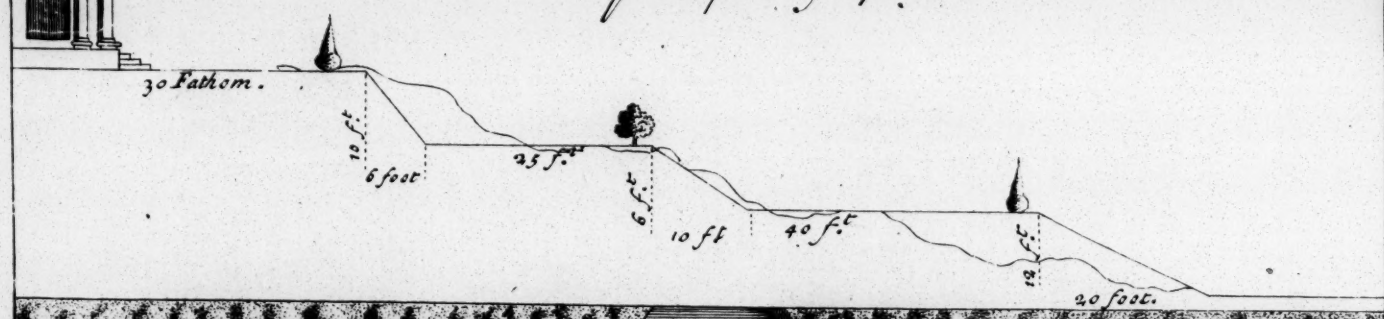
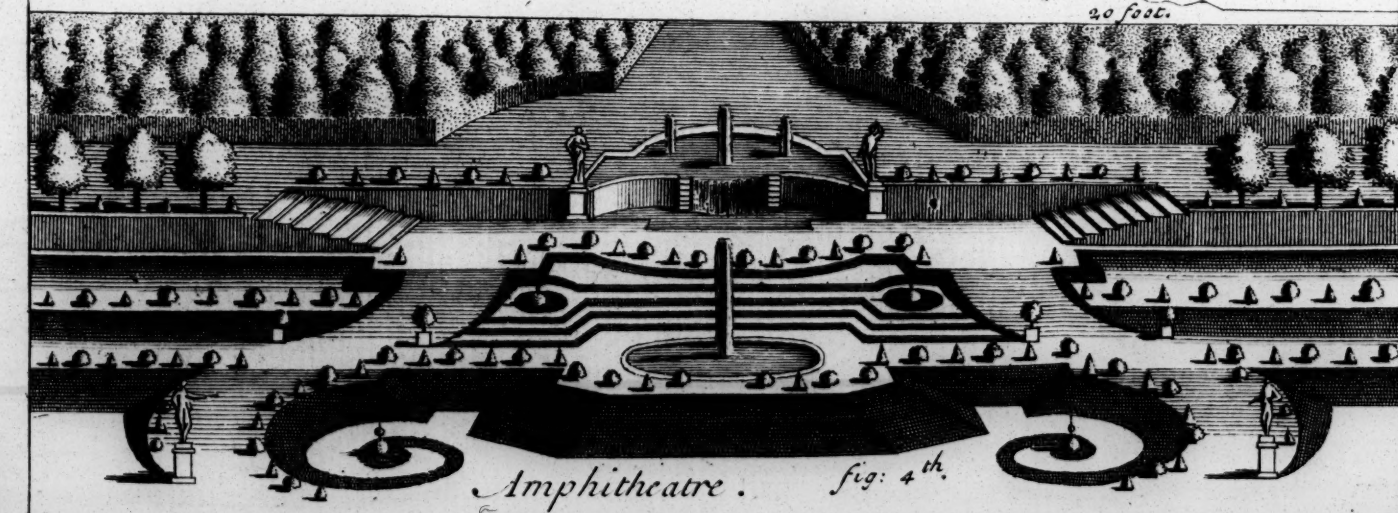


fig: 3d.

The Profil of the Terrasses to be sustain'd by Slopes of Grats.





Amphitheatre. fig: 4th.

fig: 5th.

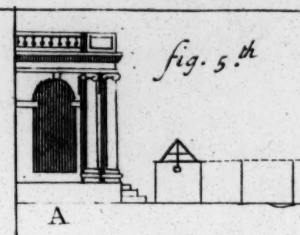


fig: 6th.

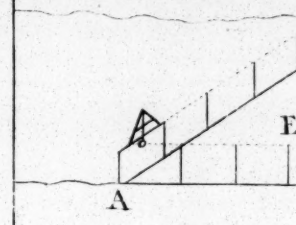
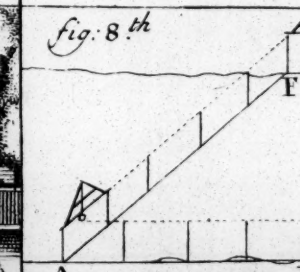


fig: 7th.



fig: 8th.



Pl. G.

fig. 5th

The Levelling for Terrass-Walls.

The First Practice.

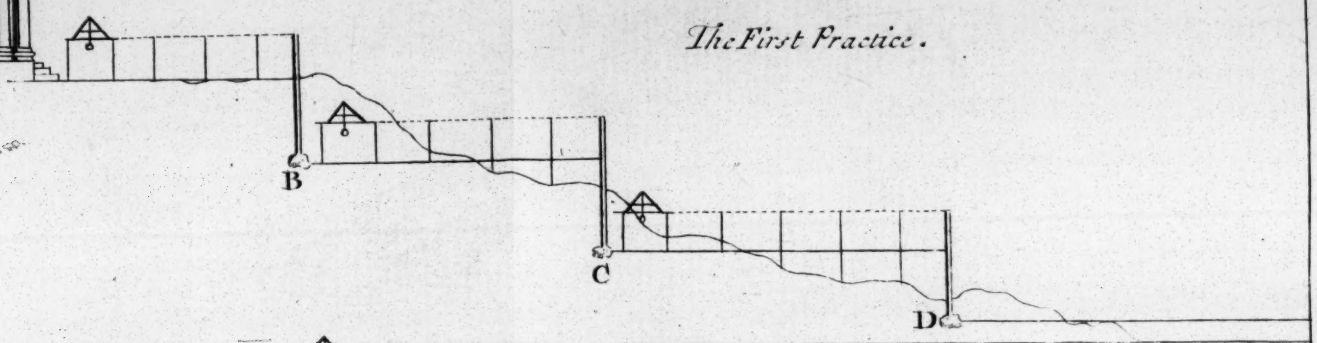


fig. 6th

The whole Plot sustain'd by Walls of Masonry

2d Practice.

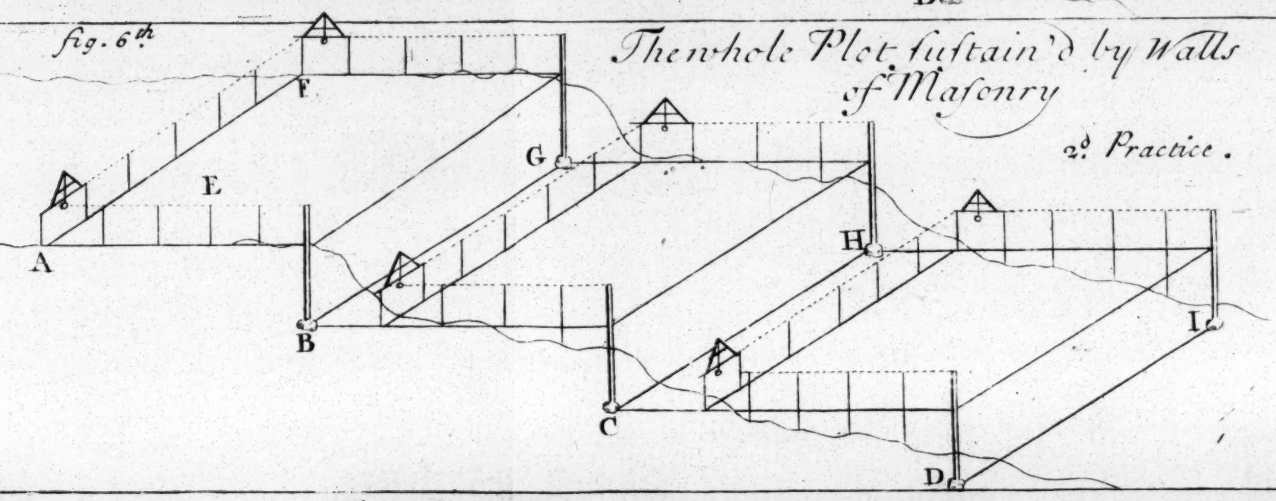


fig. 7th

The Levelling for Slopes of Turf.

3d Practice..

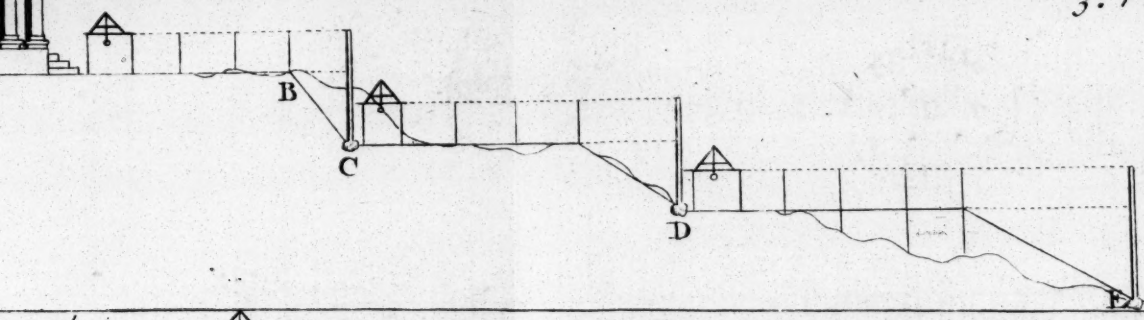
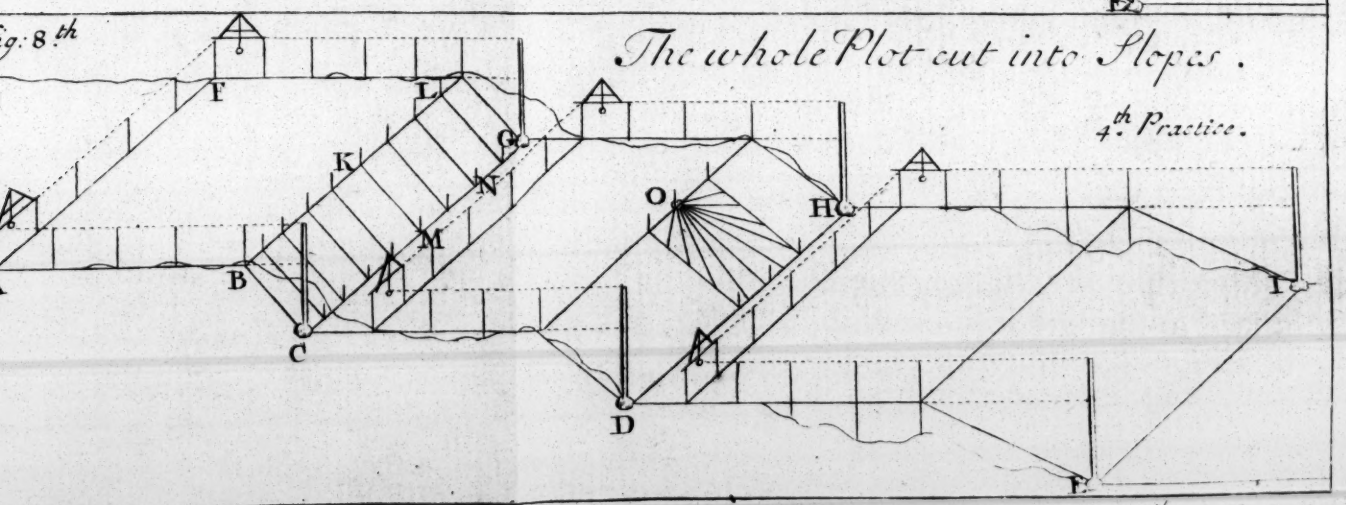


fig. 8th

The whole Plot cut into Slopes.

4th Practice.



M. Vdr Gucht Scul.

accompanied with a Wood, from which it makes a Deſcent, as is alſo the little Stair repreſented in *Fig.* 7.

SO much for Stairs of Stone; I now come to ſpeak of thoſe of Graſs, which form Amphitheatres, Riſes and Banks of Turf, as may be ſeen in the 3d Plate.

AMPHITHEATRES are proper for regulating the Aſcent of ſuch Hills as one would not cut into high and too frequent Terraſſes, on account of the Conveniency of walking; Riſes and Banks of Turf do well at the End of a Walk, and in the Niches and large Receſſes of a Hedge, uſually made for the Decoration of Groves. Stairs and Steps of Turf ſerve in the Deſcents from ſuch Terraſſes as are ſupported with Slopes of Earth, but never ſhould be made in Walls of Maſonry, where the Steps muſt neceſſarily be of Stone; whereas in Slopes of Graſs, Steps of Stone may be ſet as making a very agreeable Variety, and diſtinguiſhing the Verdure.

THE firſt Figure ſhews an Amphitheatre of Turf at the Deſcent of a Wood, and at the Head of a great Canal: the upper End of it is partly bounded by a Hedge with Niches and Figures in Terms: it is filled with a great Baſon that has a Jet which is ſeen from the middle Walk, and that of Horſe-cheſnuts planted along the Terraſs. This Eſplanade is ſupported by a low Wall of Maſonry cover'd with a Trellis and Yews, which Wall advances in the Front of the Amphitheatre, and is interrupted by two winding Slopes, which lead down to the Walks below, where they terminate in Scrolls compleated by the circular Corners of the Piece of Water, with a Yew to denote their Center. On the middle of this Terraſs above is ſet a Bench, with Yews regularly placed on each Side. At the Foot of the Wall is a Half-pace continued to three Graſs-Steps, and lower is another Flat which runs on to a Slope, the Foot of which brings the Declivity down to the Water's Edge. The two Walls, the Steps, and the Slopes of Graſs, with the three Landing-places, lie very well in view, and make an agreeable Variety, and all theſe together compoſe the Amphitheatre: this might be enriched with Vaſes and Flower-pots upon every Half-pace without the Ornament below, which ſets it off very much; 'tis a ſmall Caſcade or Buffet of Water, advancing forward in the middle, upon which are two

young Tritons with their Shells, and three water-Spouts, which fall into a little Baſon, that diſcharges itſelf by a Sheet into the great piece of Water. Upon the Sides and at the two Ends, are four Salvers of Water, that fall again by a Sheet into the ſame. Between theſe laſt are ſet two * Sweating Rocks, that is, ſuch as have a Water-bubble at top which breaks upon little pieces of Rock-work, down to the level of the Water. This Buffet is ſupplied by the great Baſon above, the Fall from which is ſufficient for the purpoſe. The Ground beyond the winding Aſcents, is cut into Terraſſes and Under or Counter-Terraſſes ſupported with Slopes of Turf, except the upper Wall which runs all along in Maſonry.

* Rochers Suans.

THE Amphitheatre which preſents itſelf in the 2d Figure, is fit for a place, where the Fall is not ſo quick, as it may be the Slope of a little Hill, where the Declivity below may be thrown into a Bowling-green, on a hanging Ground; and where a Canal, as in the foregoing Deſign, cannot be made, becauſe the Level of the Water would require the Fall from above to be much greater. The Head of this Amphitheatre forms a ſquare Hall, ſurrounded with Porticos and natural Arbours, which have an admirable Effect below; it is filled with a Square Baſon, hollowed out at the Corners with a *Jet-d'eau* in the middle. The Decoration at the farther End is heightened by Figures ſet between the Arches. The Earth in front of the Baſon, is ſupported by a Wall, divided into ſeveral pannels and pieces of Ruſtick Work. In the middle are two Cups ſupplied by a large Bubble of Water, which diſcharge it again by Sheets, into a pretty large Baſon, which poſſeſſes all the Space between the Terraſs-walls and the Foot of the circular Slopes. Theſe Cups are enriched with Rock-work, and make a very good Effect at a diſtance; they are alſo accompanied with two Spouts on the Sides, the Water of which comes from the Reſervoir or Baſon above. The Slopes return ſquare at firſt, and then form part of a Circle; they are ſupported on one ſide by Terraſs-walls, differently from thoſe of the former Amphitheatres, which were by Slopes of Graſs: on the other ſide is a riſing Ground, with a Wood of Foreſt Trees, hid by a Horn-beam Hedge with

with Balls upon it, which makes a ſmall Return at the Ends, to give Entrance under Arbours, which are backed with the ſame Wood. They have alſo ſmall Ribs of Graſs laid in Zigzac, to break the Current of the Water, and to throw it into the Wood upon the Sides. Theſe two Slopes lead down to a large Flat, ſupported by a Bank of Turf, that breaks forward before the Baſon, and the two Walks at foot of the circular Slopes, in which are made Steps of Graſs. At the Head of this Bank, you ſee Yews and Pots of *Dutch* Ware, ſet upon Plinths of Stone, and at the foot of the Slopes are four fine Figures. The Bottom is filled with two large Beds of Graſs on a hanging Level, bordered with Walks and Yews. One may ſuppoſe it a Bowling-green, by continuing the Bank all round, or bringing the Sides of it off to nothing at the Ends. You may obſerve too, that the flat Parts here are larger than in the other Deſign, becauſe the Fall of Ground there was much quicker.

The two following Figures are of Pieces very different from the former, in Size and Magnificence, they are no more than ſmall Banks and Steps of Turf, without any Wall; of which one (*Fig.* 3.) is proper for adorning the End of a Walk, and to make a Perſpective: it is ſunk in a Wood having a Lattice-work, which ſtops againſt the upper part of the Ground. You go up by three Steps of Graſs made in the height of the firſt Terraſs, from this Flat you are led by an eaſy Slope of Turf to another, where you find a Seat or Bench of Graſs, upon which is a large Oval Flat bordered by the Hedge of the Wood. The Work in the 4th Figure may ſerve for the ſame place, but becauſe of the Hedge which riſes to the ſame Height upon every Step, it is intended to be ſet in the Sinking of a Grove, where another is to be made over againſt it, for Banks of this kind in Receſſes are inſtead of Seats. You are led to the firſt Landing-place, by an eaſy Slope of Turf, upon which you find a Fardingale or Throne of three Steps, which ſerve as ſo many Benches to ſit upon, the Flat or Tred of them is ſanded, to make a variety from the other. The Aſcents are adorn'd with Cheſts of Yews, Flower-pots and Vaſes of *Dutch*-Ware filled with the Trees and Flowers of the Seaſon, whoſe mixture of

Colours add an infinite Luſtre to the fine Verdure of theſe Pieces.

THE two laſt Figures are of plain Stairs of Graſs proper for ſuch places where one would entertain the Eye as at the Deſcent of a Terraſs ſupported with a Bank of Turf. That of the fifth Figure is double, having a leſſer Slope below the greater to ſuſtain a Counter-Terraſs. You go down from the Top by two Slopes of Gravel, which bring you upon an oval Half-pace, from which by three circular Steps you come upon the Counter-Terraſs, and thence by three others to the Bottom. The other Stair (*Fig.* 6.) is particular, in that its Aſcents are cut by Steps of Timber painted green or white, the Treds of which are gravell'd; this does well enough, and will laſt a great while. Theſe wooden Steps are fixed into circular Plates of Timber, which twiſt to anſwer the Aſcent; and at Bottom are Plinths of Stone to ſet Vaſes on. The middle advances with an eaſy Slope of Turf, and the bottom is filled with a large green Plot edged with Yews and flowering Shrubs, as is likewiſe the head of the Terraſs. On the Back of the Terraſs is a Hedge, which makes a Receſs in front of the Stairs, and affords room for a Seat to be put there, as alſo for a round Graſs Plot with a Carved Vaſe in the Middle of it?

IN making Stairs and Benches of Graſs, to render them more laſting we make uſe of ſtrong Planks of Ship-Timber, with Poſts or Piles drove into the Ground at the Corners, and Stakes on each ſide of the Planks to keep them in their place. This Timber ſhould be half burnt, that is, juſt blackened or coaled in the fire, which makes it laſt longer in the Ground; or you may paint or tar it over, which will alſo preſerve it. Theſe Planks are ſet no where but to keep up the Earth of the Landing-places, and to form the Dies or Pedeſtals at the Corners; for the Steps of Turf are bedded upon the Earth itſelf, unleſs you chuſe rather to make them all of Plank, and then cover them with green Box: In Amphitheatres the firſt preſſure of the Ground is uſually ſuſtained by Walls, but the ſmall Banks and Steps need no other Support than the Earth it ſelf, and the Graſs which takes root in it; unleſs it be a looſe gravelly Soil, which having nothing of Body to fix it, is always ſliding down, in ſuch caſe theſe Works ſhould be done with Hurdles of wattled Rods, as I have already ſhewn.

A SMALL imperceptible Declivity ſhould be given to all the Steps for carrying off the Water, always towards the Graſs for to water it. In Slopes that are too ſteep, and might be ſpoiled by the Torrents of Wet, you may croſs them with Fillets of Turf, which will throw the Water off upon the Sides. As to Stairs of Wood, you make the Riſes of Timber and paint them green, and fill the Flat or Tred with Graſs or Stone-rubble well beaten, which muſt be carefully kept from great Currents, or they will be waſhed off from the Wood. In places that are ſomewhat ſteep you ſhould always make uſe of Graſs-Turf, and for the Service of ſuch Steps where the Tred is not of Graſs, there muſt be a little Riſe or Check at the Edge of the Step, to keep the Stone or Gravel in its place.

ALL theſe green pieces ſhould be well beaten every Spring of the Year, this ſettles them and makes them much more laſting: They ſhould alſo be edged and clipped every Month with the Sheers, for the Sithe is of no uſe here; without this care, the Graſs will grow too high, and ſpoil all the Beauty of the Deſign.

CHAP.

CHAP. IV.

Of the Manner of tracing out all Sorts of Deſigns upon the Ground.

'TIS not enough to have given all the foregoing Practices for the Inſtruction of Gardeners; for though they are good in themſelves, and very eaſy in the Execution, nevertheleſs, being but things detached and ſeparate, it may be objected, that there is ſtill a farther Difficulty to tack them together, ſo as to make one Piece; I mean, that it would be matter of freſh Trouble and Perplexity, to trace out the general Diſpoſition of a Garden. This, therefore, has inclined me to deliver in this Place the Manner of tracing out a general Plan, where all the ſeveral Parts that compoſe a fine Garden are ſuppoſed to occur; and by this I hope to give the laſt Perfection to this Work, and make any one capable to trace out and execute upon the Ground, the moſt difficult Deſigns that are.

I SUPPOSE, in the firſt place, that this Perſon has conſider'd and underſtood all the ſhort Practices in the firſt Chapter of this ſecond Part, and that he has tried and drawn them out one after another upon the Ground, which I have before called the Elements of the Manner of Tracing. I come now to ſhew him the Way to make a general Application of all theſe diſtinct Parts, and to put them in practice in the general Diſpoſition of a Garden, as may be ſeen in the following Plate.

THE Ground being dreſs'd, and every way prepared for tracing, as has been taught in the firſt Chapters of this ſecond Part, and the Deſign and Diſpoſition of the Garden alſo reſolved on, I ſhall ſuppoſe the Building and Walls

that

that incloſe the Ground to be complete and finiſhed, it not being my Purpoſe to treat of Architecture.

THE Example I here propoſe, is the general Diſpoſition of a Garden, where there are Parterres, Groves, Bowling-greens, Fountains, *&c.* and in a word, all that can make up a handſome Garden, as is here ſhewn in this Plate, where the Plan is ſuppoſed to be deſigned upon a Roll of Paper, *Fig.* 1.

THE ſecond *Fig.* by the Side of it, where the plain Tracks are marked, repreſents the Ground, and what ought to be done in order to draw upon it, and deſcribe to a Truth the ſeveral Parts of the ſmall Plan, that is to ſay, to place them right, and give them their juſt Dimenſions.

'TIS to be obſerved, that in order to ſtrike out all the Parts and Dimenſions of this Plan to an Exactneſs upon the Ground, you muſt preciſely follow thoſe you find with the Compaſſes upon the Scale, at the Bottom of this Roll of Paper, as has been already mention'd in the firſt Chapter of this ſecond Part.

WHEN you read in the following Practices, *according to the 4th, 5th, or 6th Practice*, it is to be underſtood of the Practices that are in the firſt Chapter of this Part, and not of thoſe that are in the 2d and 3d Chapters laſt paſt.

TO proceed to the Practice of tracing this general Plan upon the Ground, you begin with prolonging the Front of the Building *A*, *Fig.* 2. by Stakes ſet on each Side at proper Diſtances, in the Range of the Building, as the Line *B B*, *according to the third Practice*. Meaſure with the Compaſſes upon the Scale of the Plan, how many Fathom there are from the Fabrick *A* to the Parterre *C*, and you'll find this Croſs-Walk is five Fathom wide; ſet this Meaſure off, by the Fathom upon the Ground, from the Foot of the Building, and drive a Stake at the End of it, as at *D*. Then find the Middle of the Front of the Building *A*, and fix a Pole before it, as *E*; and meaſuring, in like manner, the Middle of the other Front on the Court-ſide, fix another Pole there, as *E*, in a Line one with another acroſs the Veſtibule. This done, ſet the Semi-circle, as was mention'd before, upon the Place of the Stake *D*, ſo that the Sights of the

Baſe

Baſe cut the two Poles *E E*; and prolong, by Stakes, alſo the middle Line *G G*; then turning yourſelf about to a Square, and ſetting the Alhidade upon 90 Degrees, *according to the fifth Practice*, range ſeveral Stakes from one End to the other, which ſhall give the Line *F F*. Meaſure again, upon the Plan, what Length the Parterre *C* ought to have, which is 18 Fathom; take alſo half the Breadth of the great Croſs-Walk *H H*, which being five Fathom wide, will be two Fathom and a half; this added to 18, the Length of the Parterre *C*, makes in all twenty Fathom and a half. Meaſure out this Length by the Fathom upon the Middle Line *G G*, beginning at *D*, where the Inſtrument was firſt ſet: and having fixed a Point at 20 Fathom and a half beyond it, as in *I*, drive a Stake there; and from this, which is called the Center-Point, you are to ſet out all your principal Lines, chief Walks and Circles about the Baſon, as alſo the Baſon itſelf. Remove the Inſtrument again from *D* to the Center *I*, over which ſet it very plum, and let the Baſe cut the two Poles *E E* which are next the Building, and the Stakes upon the middle Line *G G*, and plant divers Stakes in the ſame Line beyond, to the very End of the Garden, as far as *K*; then ſetting the Alhidade of the Inſtrument upon 90 Degrees, raiſe a Square for the Croſs-Walk *H H*, and drive Stakes in the Line of it from End to End. Theſe Ranges give you the Middle Lines of your great Walks, and ſetting off at both Ends two Fathom and a half on each Side of theſe Middle Lines, drive Stakes there, and by them plant others, by which means your Walks will be five Fathom wide, according to the Plan.

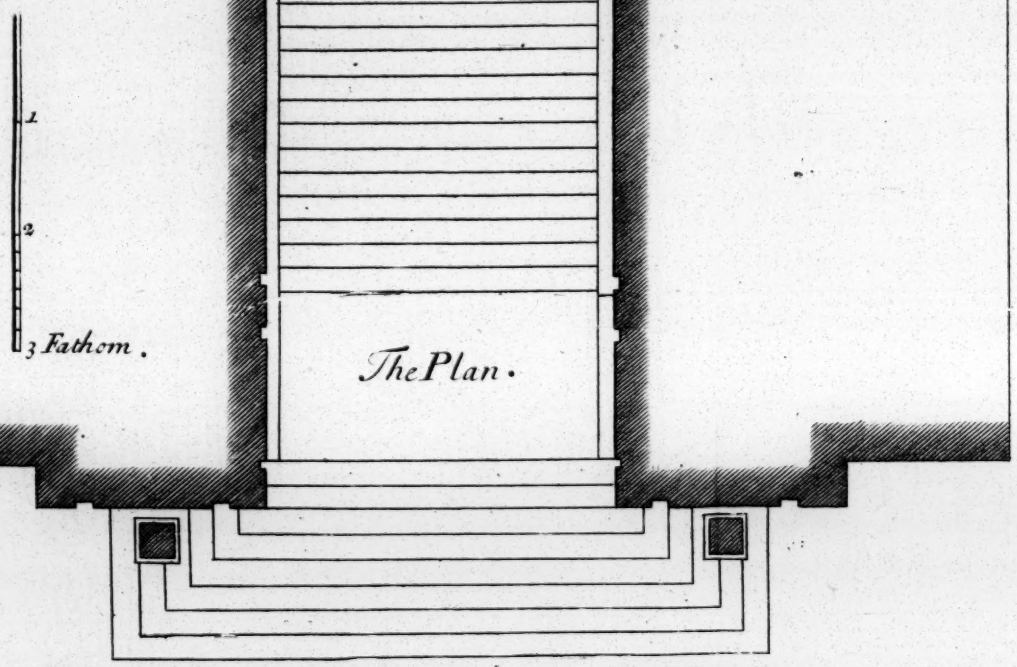
THIS being done, take away the Inſtrument, and in the Center *I* fix a Pole, which you may ſet a little deeper into Ground, in the Place where the Stake was; meaſure, with the Compaſſes, upon the Plan, the Diameter of the Baſon, which is ſix Fathom; and taking a Cord of three Fathom long, which is the half Diameter, make a Loop about the Pole *I*, and trace the Circle, *according to the ſeventeenth Practice*. After which, from the ſame Center *I*, trace out the lower Walk *L*, which compaſſes the Baſon, and makes the circular Part of the Parterre *C*; and lengthening the ſame Cord to the Meaſure required, ſtrike out the circular

The great Stairs in yᵉ Garden of Sᵗ Cloud.

The Upright.

fig: 1.ˢᵗ





Stairs of yᵉ Garden at Luxembourg.

The Upright.

fig: 2.ᵈ



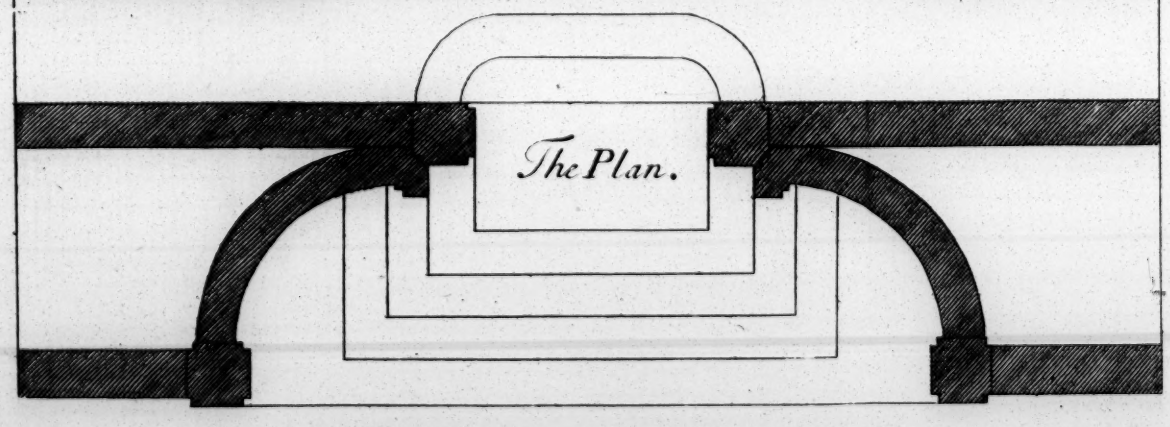


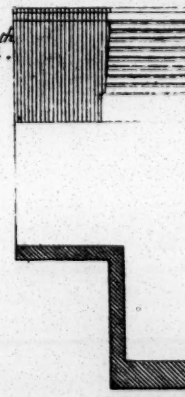


fig: 3.ᵈ



Les

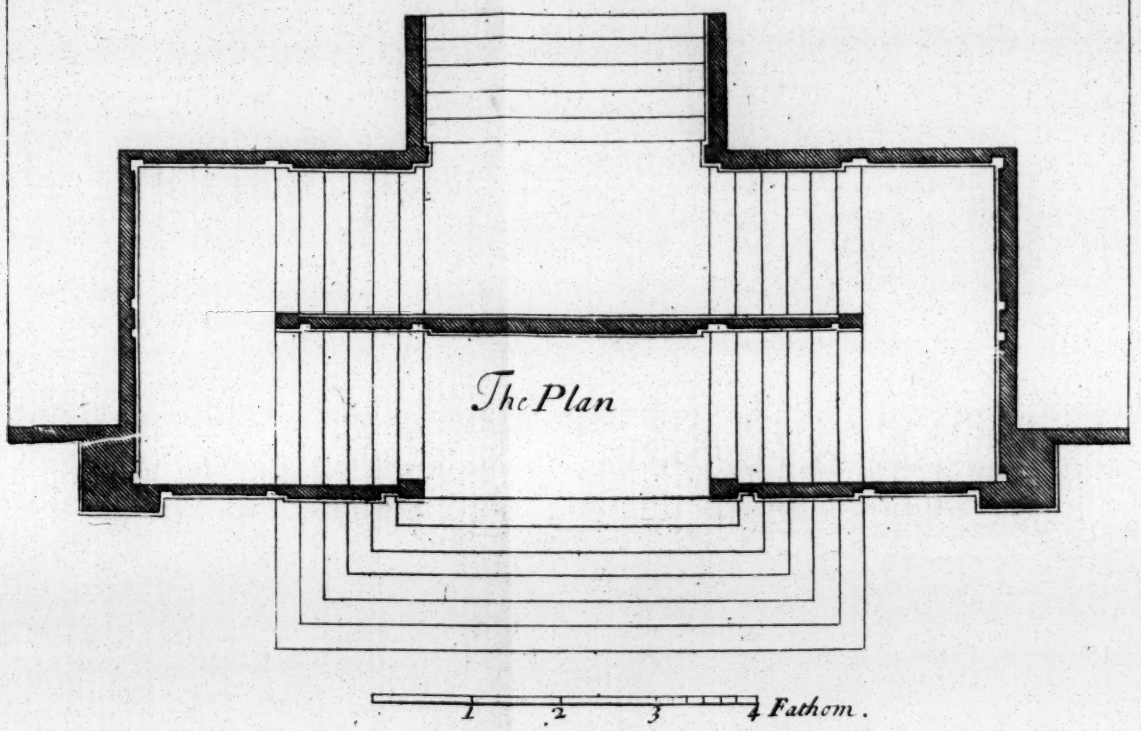
fig: 4.ᵗʰ



The great Stairs in ye Garden of ye Tuilleries.

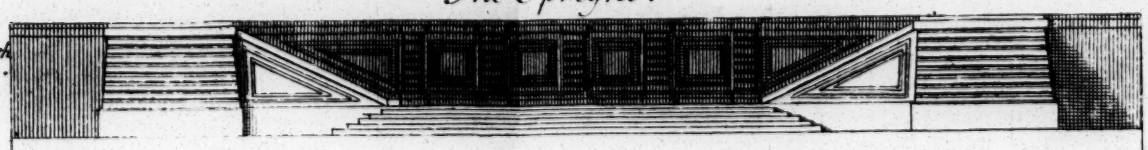
The Upright.

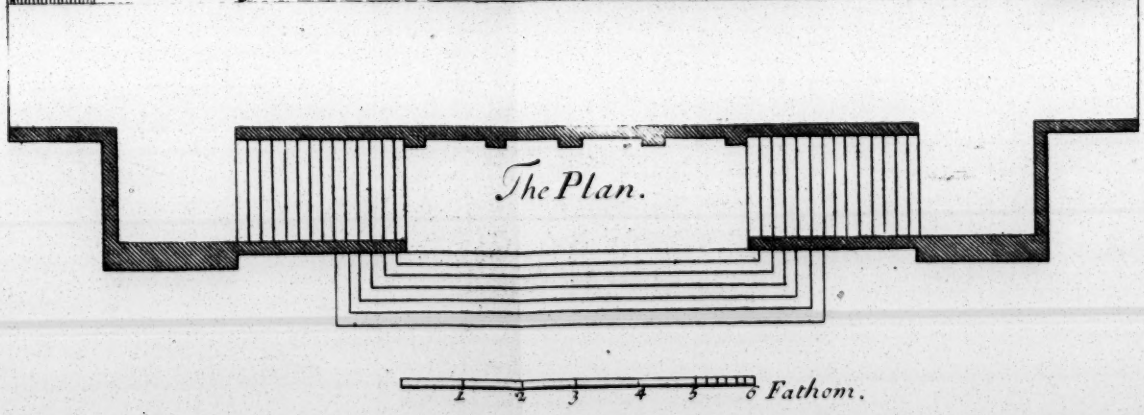




Lesser Stairs in ye Garden of ye Tuilleries.

The Upright.



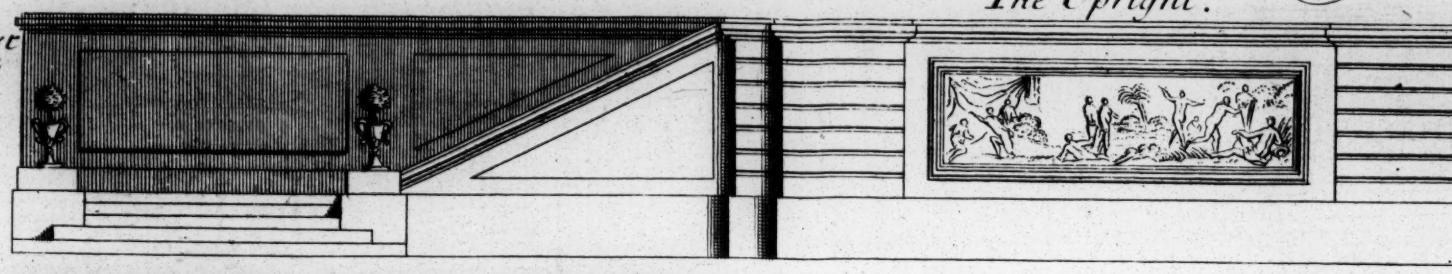


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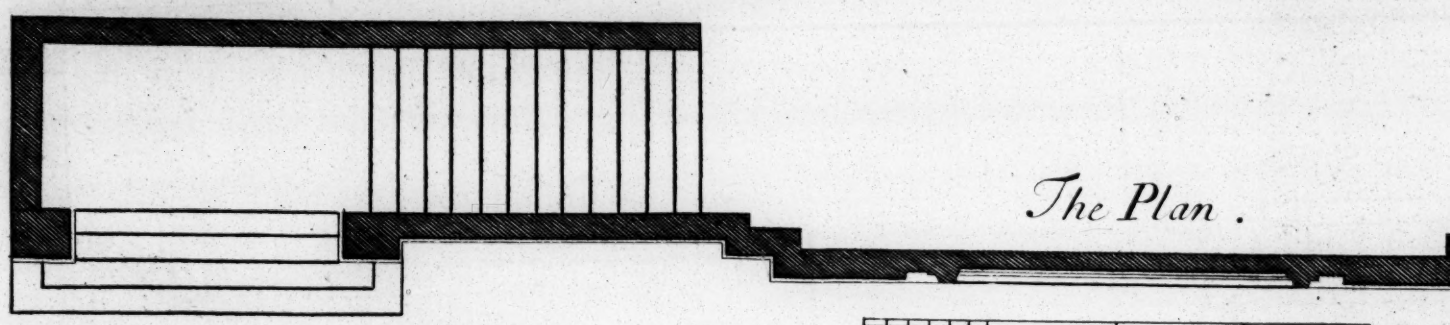
Large Stairs with two Flights

The Upright.

fig: 1.st



The Plan.



1 2 3 4 Fatho

Stairs at ye Corner of a Terrass.

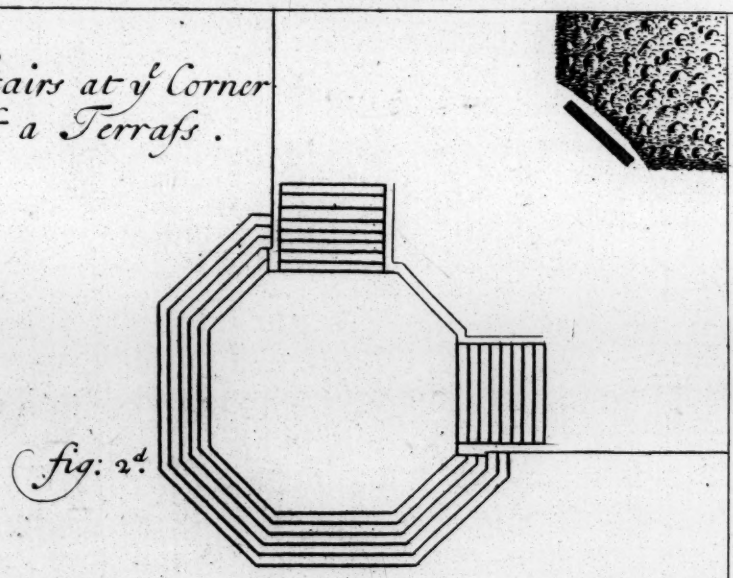


fig: 2.d

Stairs in ye middle of a Grass-Slope

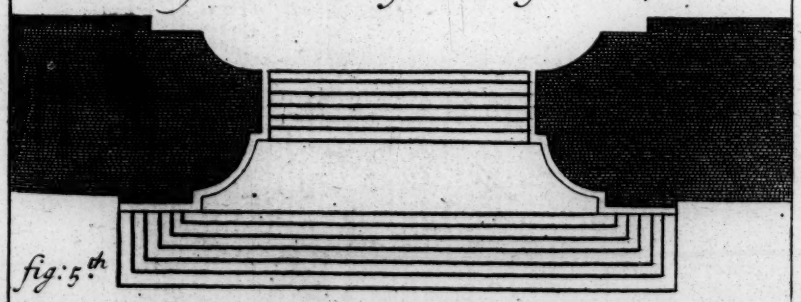
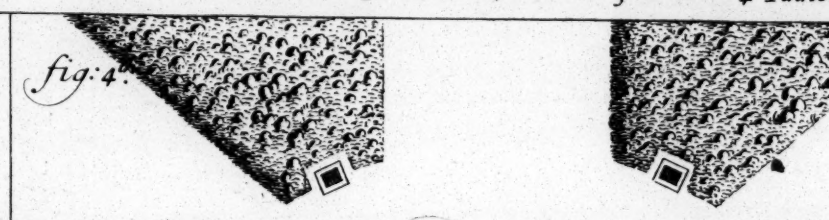
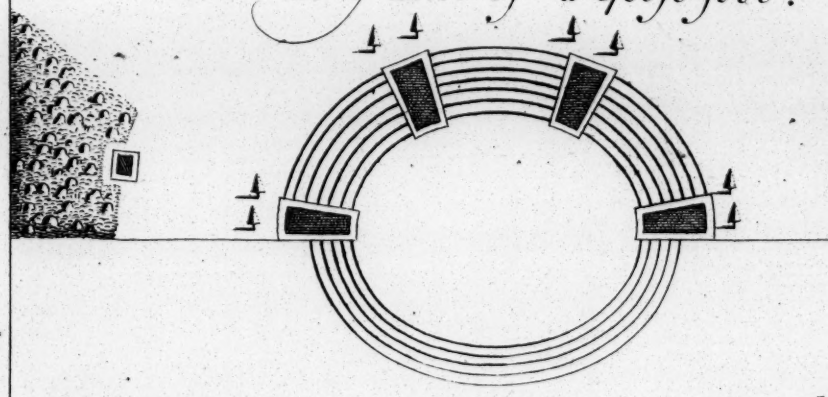


fig: 5.th

fig: 4.



Stairs at ye End of a Goose-foot.



Small Stairs horse-shoe-fashion, wth a Fo

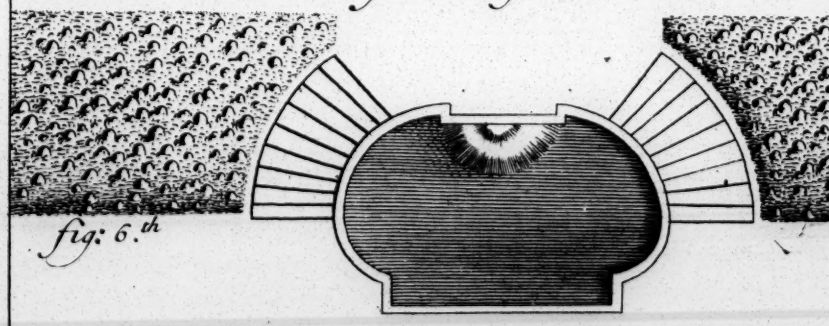
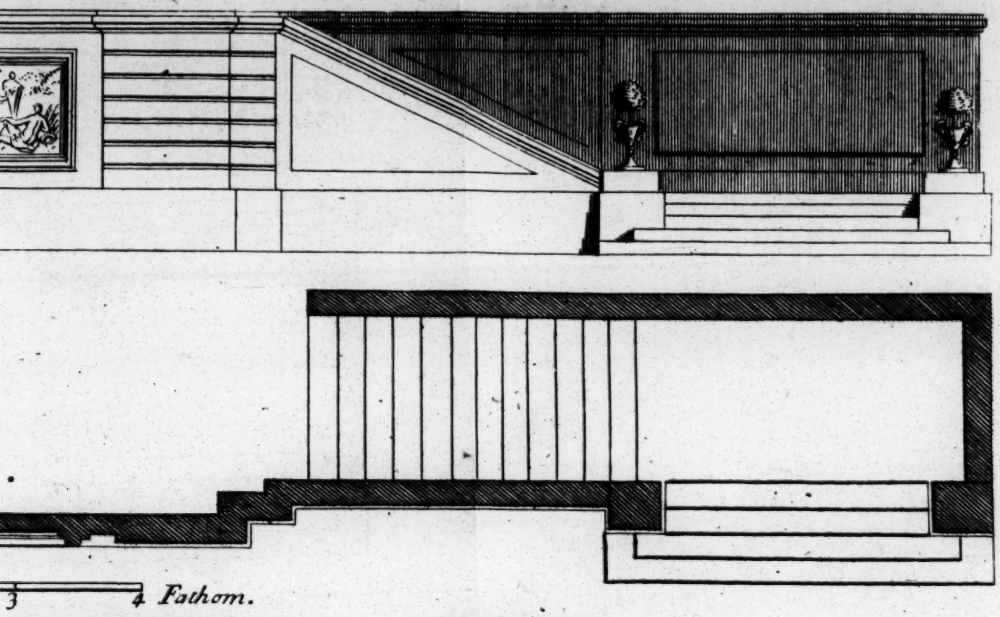


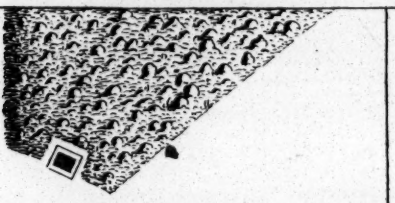
fig: 6.th

1 2 3 4 5 6 Fathom

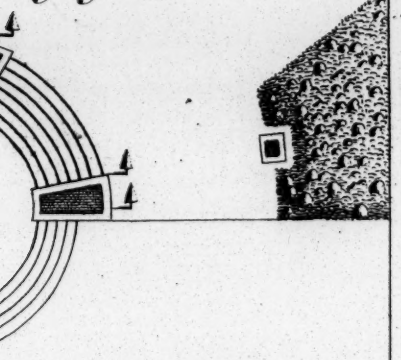
o Flights.



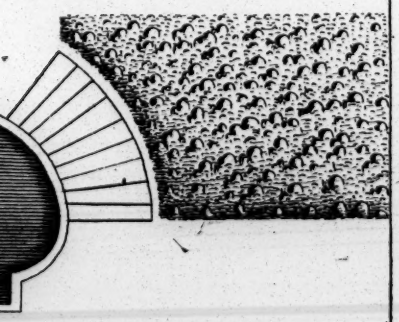
3 4 Fathom.



Goose-foot.



ion, wth a Fountain.



5 6 Fathom.

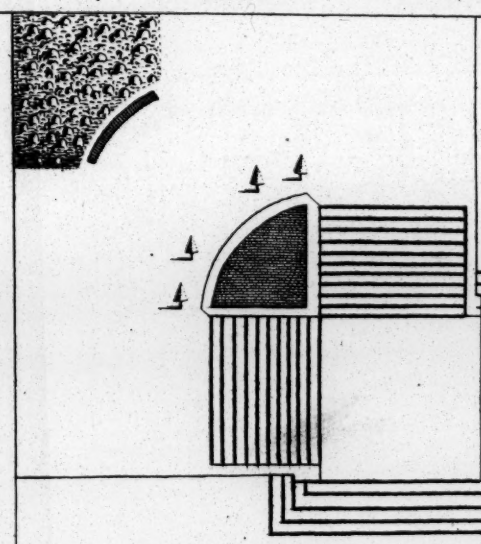


fig: 3.e

Stairs at ye Cor-
-ner of a Terrass.

Small Stairs going down from a Wood.

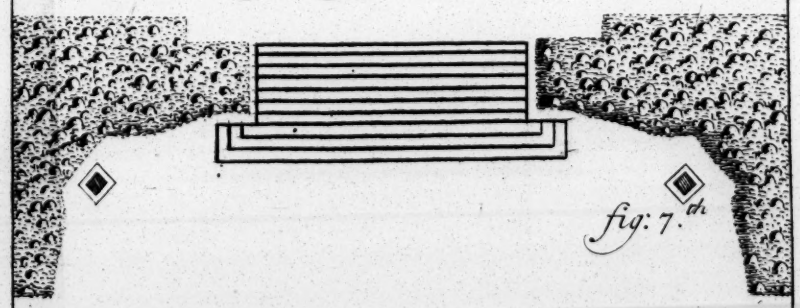


fig: 7.th

Pl. 2.d H.

M.r Vdr Gucht Sculp

Fig: 1st *An Amphitheatre at the End of a piece of Water.*

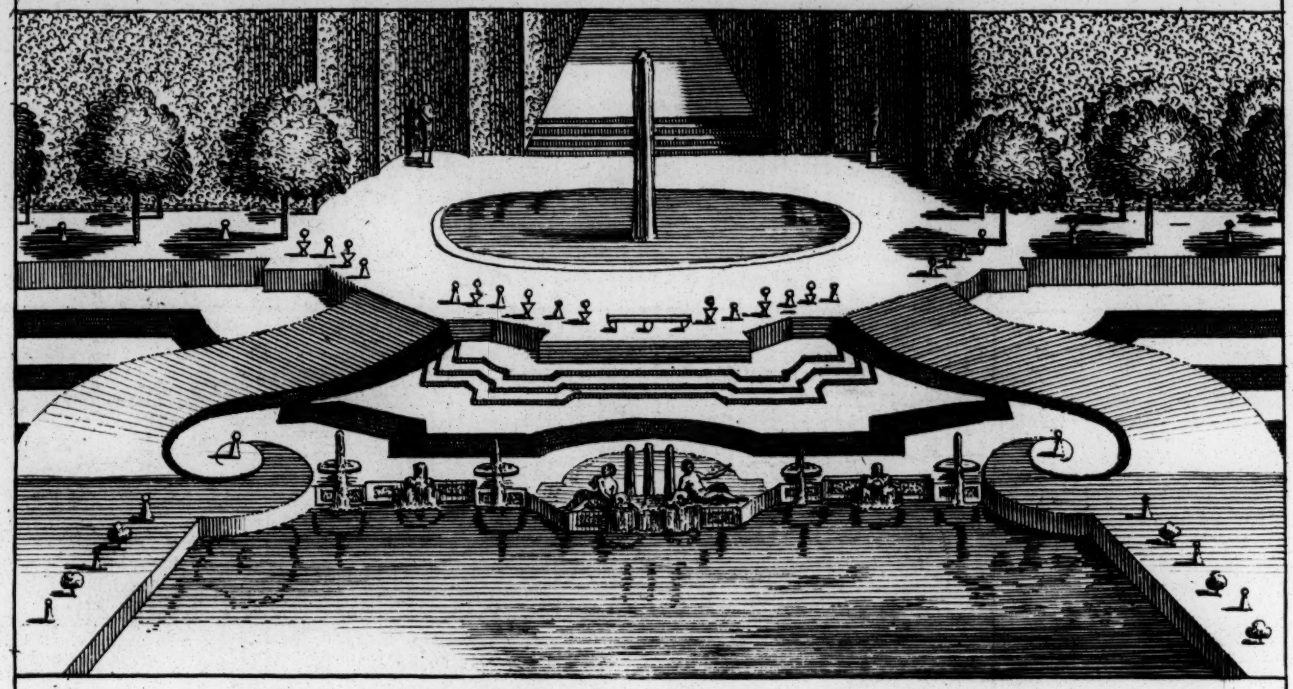


Fig: 2d 3 *Steps raised at the end of a Walk.*

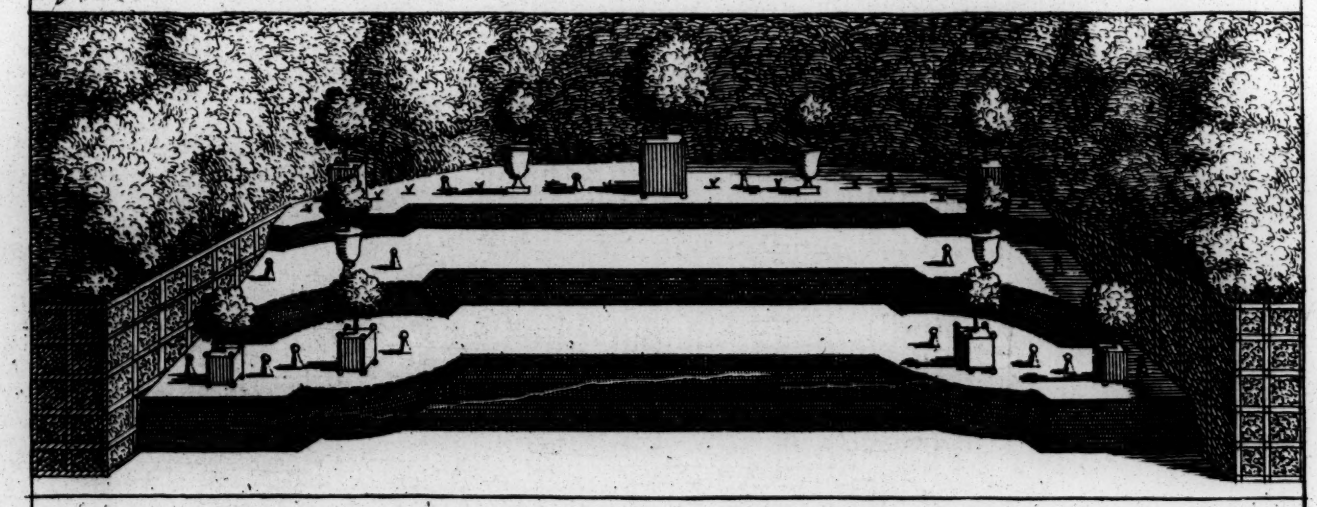


Fig: 5th *Stairs mixt with Slopes and Landing Places.*

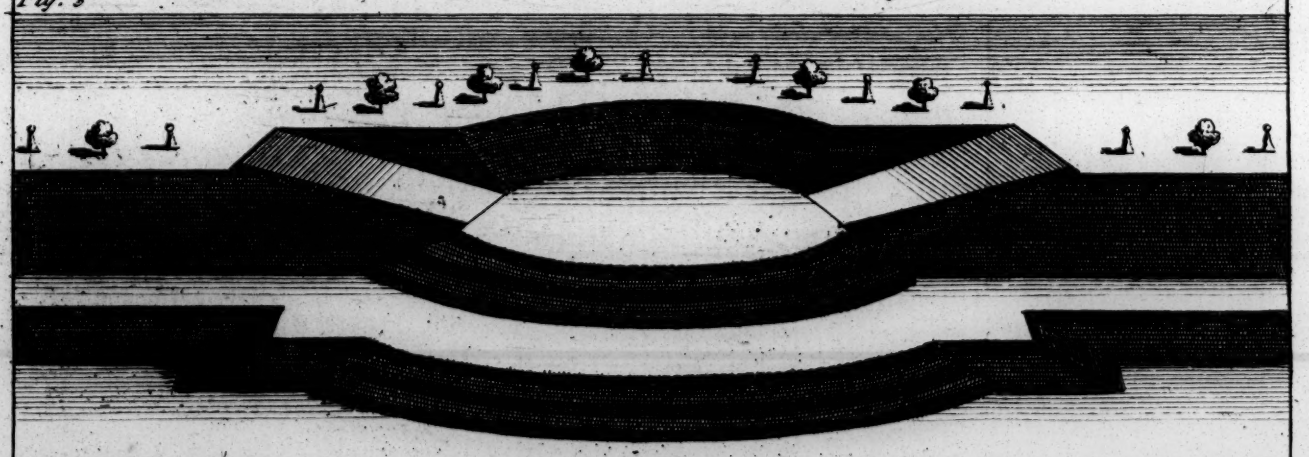


Plate 3 6.H

Fig: 4



Fig: 4th

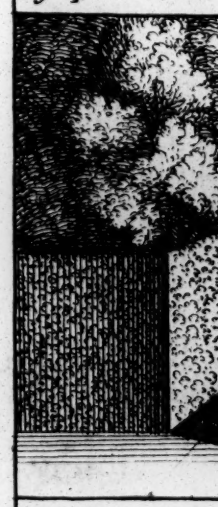


Fig: 6th

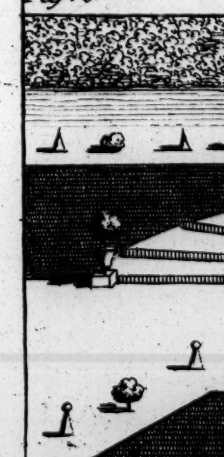


Fig: 4th *An Amphitheatre upon an Easy Ascent*

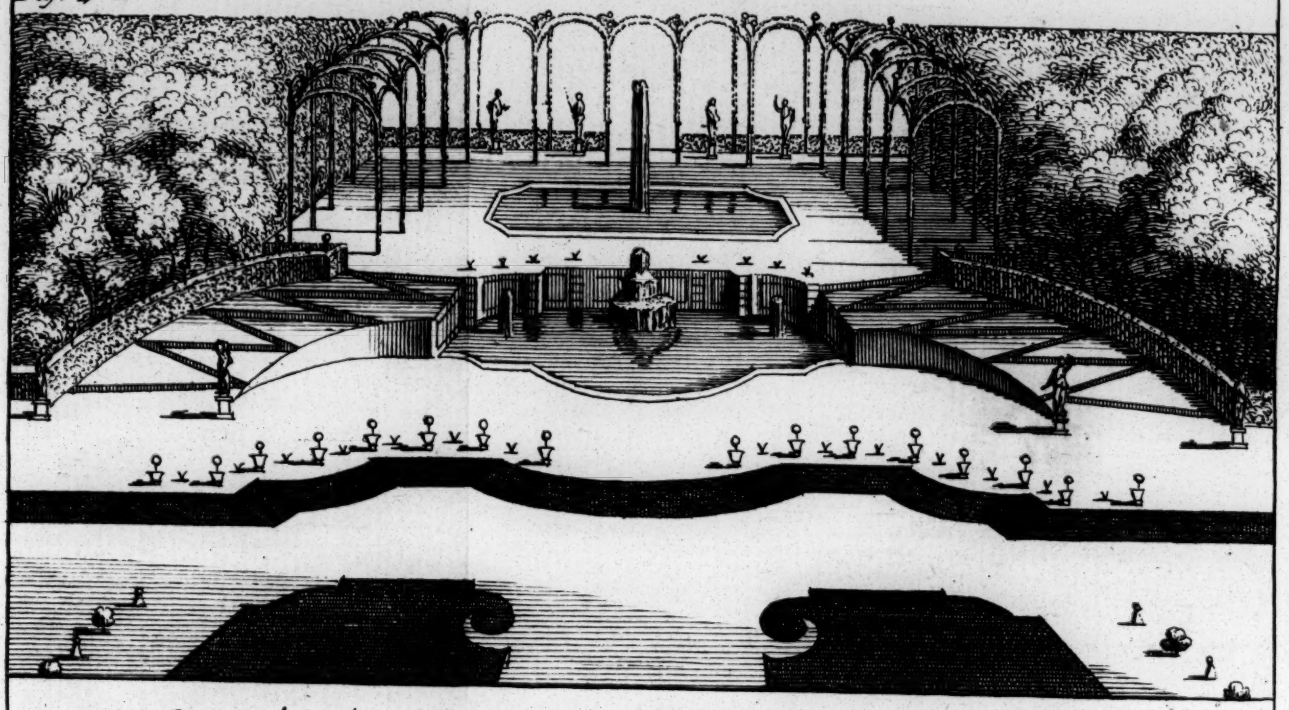


Fig: 4th *Steps in the Sinking or Recess of a Grove.*

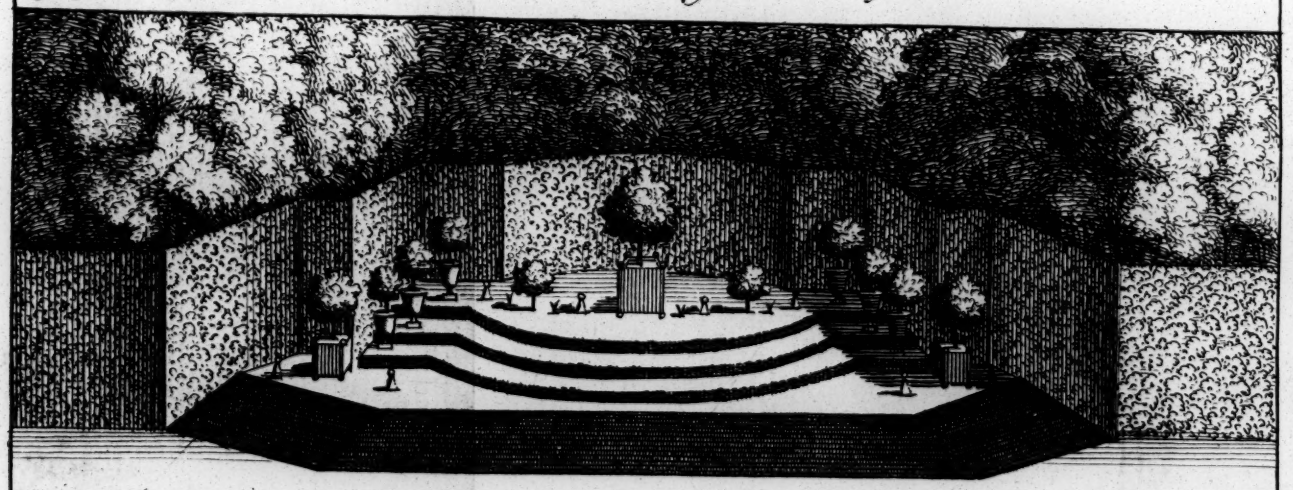
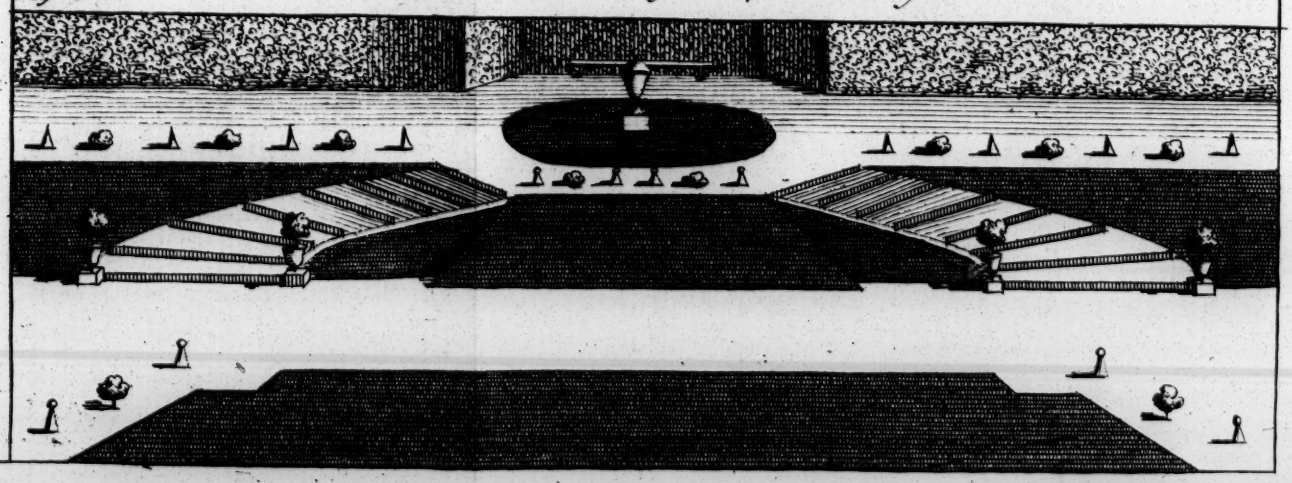


Fig: 6th *Stairs of Wood in the height of a Terrass.*



H Fletcher Sculp

Walk above, which forms the Half-Moon *M M*; terminate this Half-Moon where it meets the Walks, by Stakes ſet in the Range of the Walks, and in the Track of the Circle, which will mark out the four Corners *O O O O*. Then take upon the Plan, the Breadth of the Parterre *C*, which is ten Fathom, and ſetting five Fathom on each Side the middle Line *G G*, trace out theſe two Lines by the firſt Practice, which, with that below, *F D F*, and the circular part *L*, incloſe and border the Place deſigned for the Parterre *C*. From this Track you afterwards ſet out the Breadth of the two Walks *P P*, which have three Fathom and a half each, ranging the Stakes of theſe Walks with thoſe of the lower Corners of the Half-Moon *O O*; and where they meet the two Croſs-Walks *H H* and *F F*, plant Stakes at the Corners, which will bound this Side of the Groves *Q Q*.

FOR terminating your great Walks, meaſure upon the Plan what Length the Walk fronting the Building ought to have, from the Half-Moon *M M*, which ſuppoſe 30 Fathom: Meaſure out this Length with the Fathom, from the Corners of the Half-Moon *O O*, and at the End of it drive a Stake, as *K*, where place the Semi-circle, and direct its Baſe upon the middle Line, and the Stakes and Poles *I G G E E*, and raiſing a Square, ſet out Stakes on each Side, the whole Breadth, which gives the Square Line *R R*; meaſure again, next the Building *A*, the Length of the Croſs-Walk *F F*, from the middle Line drawn upon the Plan, which is here found to be 26 Fathom on a Side; and from the middle Line or Pole *E*, meaſure each way, upon the Ground, 26 Fathom. Then go to the other End, and from the Stake *K*, meaſure likewiſe, upon the Line *R R*, 26 Fathom on each Side, and terminate theſe Lengths by Stakes, planting ſeveral others upon the Length of the two Sides, which will give the Lines *S S*, and *T T*, and terminate and incloſe the Squares deſigned for the Groves *Q Q*, the Wood *V*, and the Bowling-green *X*, the Corners of all which ſhould be mark'd out with Stakes. After this, the Walks about the Walls are eaſily ſet out, meaſuring by the Fathom, from both Ends of the Lines *R R S S*, and *T T*, to which they are parallel, the Breadth they are found to have in the Plan. As to the two Squares of

Kitchen-Ground *Z Z*, which are upon the Sides of the Court, it is needleſs to ſay, that for tracing them, you have no more to do than to prolong the Lines *S S*, *T T*, &c. for their Length; and for their Breadth, ſet off from the Croſs-Line *B B*, the Number of Fathoms they are found to have by the Plan, and you have their Sides determined without farther Trouble.

FIRST OBSERVATION.

THO' the Plan I have here given for an Example be of a ſquare Figure, nevertheleſs, if you had a Garden to ſet out that is beveling or oblique, as that of the fifth Plate of the general Diſpoſitions of Gardens, *Part* I. You would meet with no more Difficulty in it, than to open the Semi-circle, and to ſet it upon the ſame Degree ſhewn by the Protractor, in taking the Openings of the Angles upon the Paper.

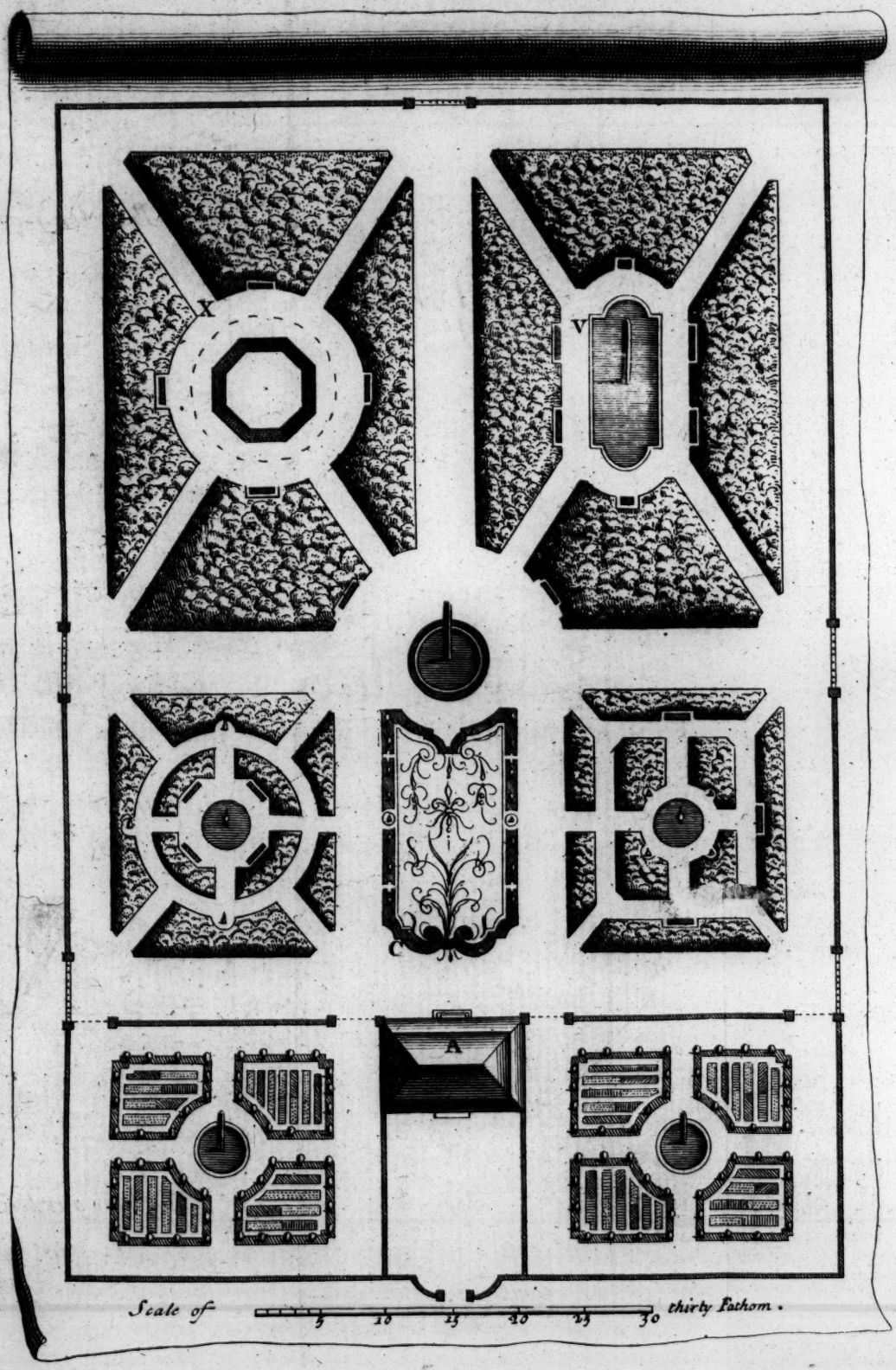
SECOND OBSERVATION.

AFTER you have entirely ſet out your Garden, the uſeleſs Stakes and Spikes muſt all be taken away, as ſerving only to puzzle and perplex you, and let ſuch only remain as are neceſſary: For Example, in the Groves *Q Q*, *Fig.* 2. you need only leave the four Stakes at the Corners.

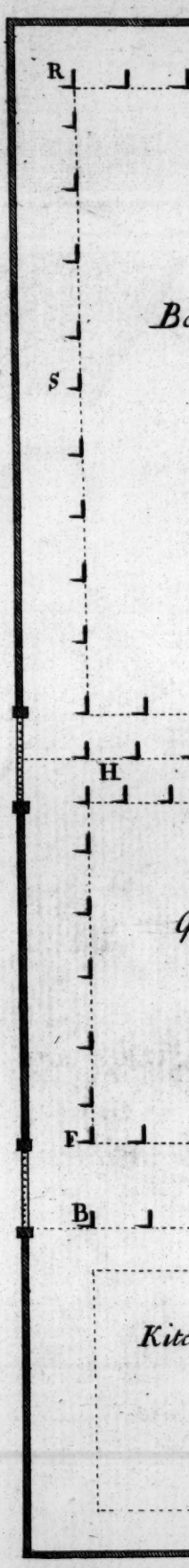
THIS is the beſt and moſt expeditious Method that I know of ſetting out a Garden, finding firſt the principal Rows, and all the middle Lines, and ſetting out in groſs all the different Parts marked upon the Plan. Nothing now remains, but to ſhew the Method of deſcribing the Inner-Part of theſe Works, which is contain'd in the three following Practices; the firſt teaches to trace out a Patterre; the ſecond, a Grove; and the third, a Bowling-green; which are the three principal Parts of a Garden, and the moſt difficult to execute. I have taken the Deſigns from thoſe inſerted in the general Plan, de-
PLATE I. ſcribed upon Paper, *Fig.* 1. as the Parterre *C*, the large Grove *V*, and the Bowling-green *X*, and have enlarged them conſiderably in this Plate, where, as before, I repreſent them as

The general Plan of a Garden drawn upon paper.

fig: 1st

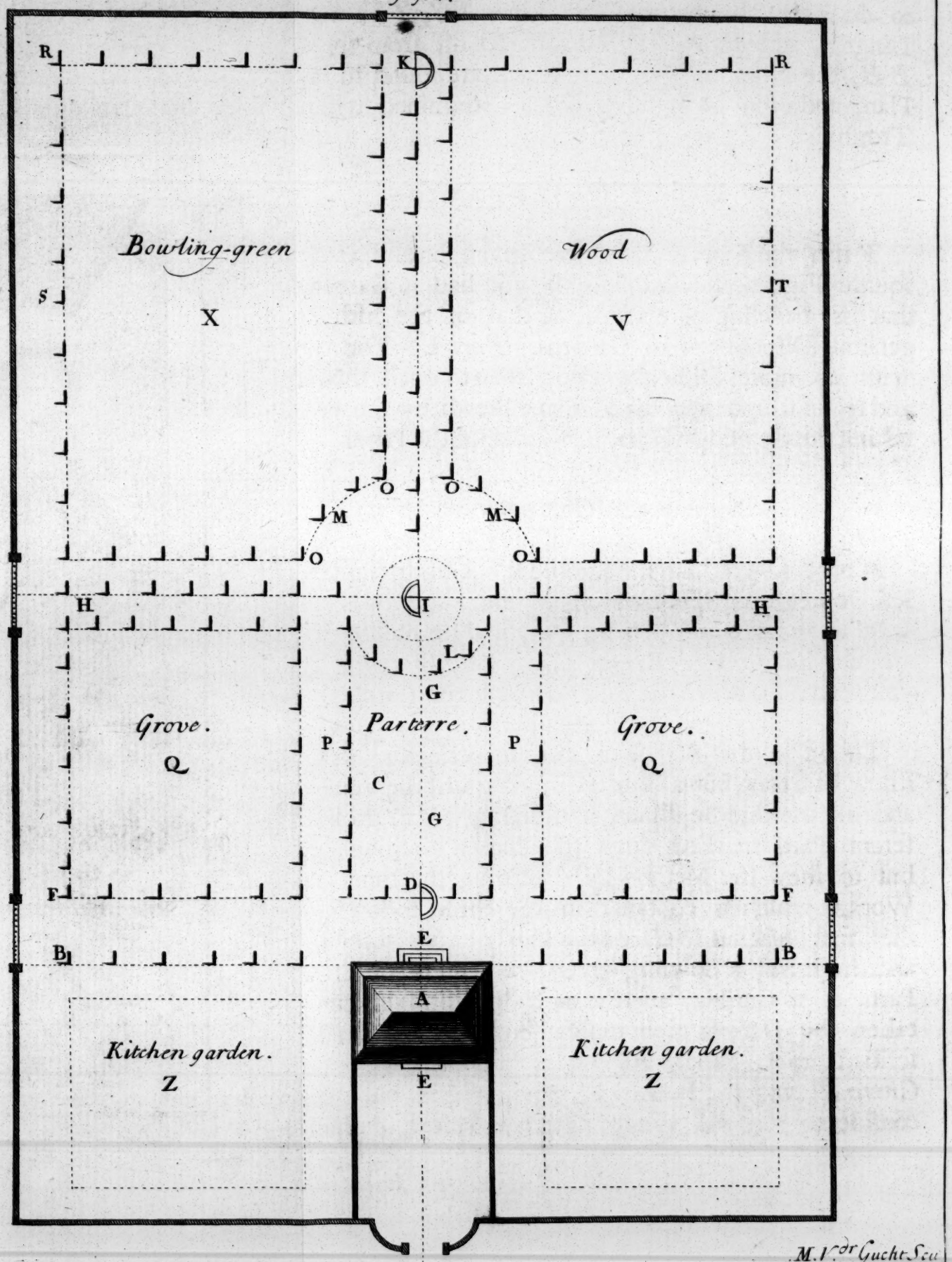


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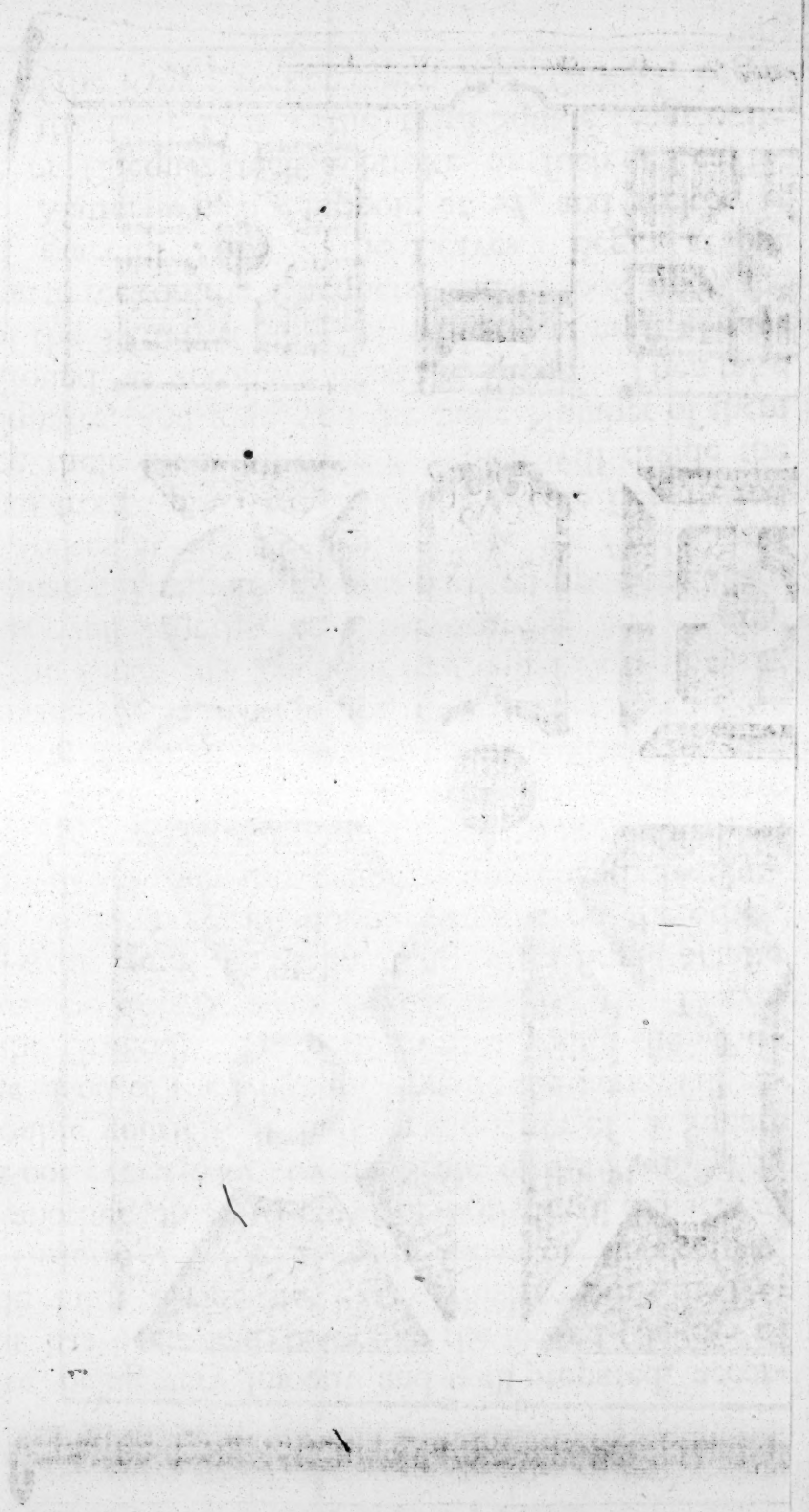


The same Plan of Garden mark'd out upon y^e^ Ground.

*fig: 2^d^*



M.I^or^ Gucht Scu



as deſigned upon Rolls of Paper, with the Practice of tracing them out upon the Ground, by the Side of them.

THE FIRST PRACTICE.

To trace out a Parterre upon the Ground.

THE Place being very ſmooth and well prepared, according to what has been ſaid before in the ſecond Chapter of this Part, you muſt divide the Paper which contains the Deſign of the Parterre *C*, *Fig.* 1. with Lines of Black-Lead croſſing one another, ſo as to cover it with ſmall Squares of about three Foot every way, by the Scale of the Plan. You need not trouble yourſelf, if half or a quarter of a Square remain at the End of the Diviſion, becauſe the ſame will remain upon the Ground. To perform this well, the Parterre muſt firſt be drawn, as in *Fig.* 1. that is, the Leaves and Branch-work muſt be delineated with a ſingle Stroke on one Side, as *A*, and with double Strokes on the other, as *B*; which will help you the better to apprehend the Out-Line and Riſe of every Leaf, becauſe not being doubled, its chief Stroke is more diſtinct, and may be traced out more exactly upon the Ground. Then go upon the Place deſign'd for the Parterre, *Fig.* 2. and taking a Meaſure of three Foot long, divide the Lines that bound it into equal Parts of three Foot each, as well lengthwiſe as breadthwiſe, and obſerve to make as many Diviſions as are marked upon the Plan, *Fig.* 1. Set Spikes at each Diviſion, as you ſee *Fig.* 2. and ſtraining Lines from Spike to Spike the whole Length and Breadth, trace theſe Lines all over it, which will divide the Place into Squares, and give you the ſame Number of them upon the Ground, as you have upon the Paper. Then take the Deſign of the Parterre *C*, *Fig.* 1. which you muſt always have near you to reckon the Chequers, and to look upon the Contour and graceful Turn of the Leaves. Begin at one End, 'tis no Matter which; ſuppoſe at *A*, and reckon in what Square or Chequer ſuch a Stroke, or ſuch a Leaf is: For Inſtance, the Leaf *D* is in the third Square lengthwiſe, and the firſt of the Row; reckon upon the Ground, begin-

ning *A A*, *Fig.* 2. the third Square lengthwiſe, and the firſt breadthwiſe, as you ſee at *D*. Firſt draw this Leaf with the Tracing-Staff with a ſingle Stroke, and conſider it very carefully, minding where it takes its Riſe, and where it terminates, whether in the Middle, or at two Thirds of the Square; and ſo of the other Leaves and Branch-work of the whole Parterre. You may deface, with the Rake, the Faults you make at firſt, in placing a Leaf wrong, that is, out of its proper Square, or in not giving it the handſome Out-Line required by the Deſign. After you have thus traced out the two Sides of the Paterre with a ſingle Stroke, and have given all the Leaves and Ornaments their due Place, you muſt then make the double Strokes, and part and raffle the Leaves, as you ſee in the other half of the Parterre *B*, which is drawn complete, *Fig.* 1. You are likewiſe to reckon in what Square theſe double Strokes are, and ſet off the leſſer Meaſures of them with the Fathom and the Foot, that they may be drawn more exact than they can be at Sight only. You may hollow the Track a little for fear it ſhould be defaced; and by Holes made with the Point of the Tracing-Stick, determine the End and Springing of the Leaves and Branches, for the Eaſe of the Planters.

FIRST OBSERVATION.

THE leſs the Squares are, the nearer you will come up to the Beauty of the Deſign, and the more exact will the Draught be upon the Ground. They are uſually kept to three Foot ſquare in ſmall Parterres; and in great ones you may give them four Foot. You need include in theſe Squares, nothing but the Volutes and Twiſting Borders at the Ends; for as for the Side-borders, they are ſet out by the Ranging-Line, meaſured with the Fathom, and traced out by the Cord.

SECOND OBSERVATION.

AS it would be difficult in a Parterre of one ſingle Piece, to repeat exactly the Deſign of the firſt half, and would take up

up a great deal of time to make the Flowers equally alike in ſhape and ſize, you may make uſe of this new Method, by which you may draw the latter half very quick, without Chequering the place, by the help of equal and like Triangles, it being underſtood that the other half hath been ſquared over, and wholly traced out. If, for Inſtance, you would double the Flower *O O*, *Fig.* 2. fix well two Pegs upon the middle Line at each end of the Flower, and one between if the Flower be large, as in *Fig.* 7. Then take two Lines made of the Rind of Lime-tree, or two pieces of very fine Wire, making Loops at one end of them, to put the two Pegs through, and draw both theſe Wires towards the Extremity, or Out-line of ſome Leaf, as at *A*, and croſſing them juſt in this place, carry them ſo croſſed to the other ſide, keeping the Ends cloſe together with your hand; then the Lines or Wires ſliding round the Pegs by means of their Loops, and drawing them equally as you did at firſt, without removing any thing, in the place where they meet as at *B*, they form a Triangle equal in every reſpect to that on the other ſide, and give you a Point, where the End of the Palm-leaf *B*, ſhall terminate like that of *A*. You do the ſame from *C* to *D*, from *E* to *F*, from *G* to *H*, and from *I* to *K*, and put in little Pegs: thus you take what Meaſures and what number of them you think neceſſary, for finding the exact Contour of every Leaf, This is leſs Trouble than running a hundred times from ſide to ſide, to take with the Foot-rule or Fathom, notwithſtanding the Chequers, a great many needful Meaſures, with which after all you can never lay down this latter half of the Deſign with exactneſs. It is certain that theſe Lines cannot deceive you in the poſition of the Figure, provided the Pegs are well fixed in the Ground, and that you do not let the croſſed Ends ſlip, which you hold in your hand, which is of the greateſt Conſequence to the equality of the Triangles.

THE

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THE

THE SECOND PRACTICE.

To trace out a Grove upon the Ground.

THE Out-Lines of the Grove *V*, *Fig.* 3. being traced out upon the Ground, and the Corners *A B C D* determin'd by Stakes; for ſetting out the two Walks, call'd Diagonals, *A D* and *C B*, from the angular Stakes *A B C D*, *Fig.* 4. plant a ſtrait Row of Stakes the whole Length each way, from Corner to Corner, which will give you the middle Lines of your Walks; and in the Place where they interſect one another, as at *G*, fix a Pole, which ſhall be the middle Point; then meaſure the Breadth of theſe Walks upon the Plan, ſuppoſe two Fathom, and at both Ends ſet off one Fathom each way from the middle Line, and ſet Stakes there for ranging the Sides of your Walks. After which, meaſure with the Fathom the two Breadths of the Wood *A B*, and *C D*, and the two Lengths *A C* and *B D*, beginning from the Corner Stakes, and mark the exact Middles above and below, by the Stakes *E E* and *F F*, and prolong theſe Lines by other Stakes, the whole Length and Breadth. As for the Hall in the Middle, which is a long Square or Parallelogram, meaſure upon the Plan, *Fig.* 3. how many Fathom there are from the Middle-Point of the Baſon to the Center of the circular Segments, which Length you'll find by the Scale to be five Fathom: Set off upon the Ground, *Fig.* 4. on the Line *E E*, and from the Middle-Point *G*, five Fathom on each Side, and drive Stakes there, as *H* and *I*, which ſhall be the two Centers for all your circular Parts. Set the Semi-circle exactly over one of theſe, as *H*, and directing the Baſe to anſwer the Line *E G E*, ſet the Alhidade or Moveable-Index upon 90 Degrees, to return your Square, and to ſet out the Line *K K*; above this Line, ſet off on each ſide, the Breadth of the Walks about the Baſon, which are two Farhom and a half by the Plan, and draw the Line *N N*. Remove the Inſtrument, and taking a Line with a Loop about the Stake *H*, draw the circular part *O*, according to the Diameter found upon the Plan, ſtopping it where

where it meets the Line *K K*, by Stakes, which determine the Breaks of the Baſon; upon the middle Line *E G E*, ſet off from the circular part *O*, the Breadth of the Walks, two Fathom and a half, put in a Stake and lengthening the Cord to this place, from the Center *H*, ſtrike out the Circular part of the Hall, *P*, till it falls upon the Line *N N*, where you drive down Stakes to limit the Breaks of the Hall. Then move the Semi-circle to the other End, as to the Center *I*, and do the ſame work, for drawing the Square Lines *L L* and *M M*, and putting the Line about the Stake *I*, deſcribe the parts of Circles *Q* and *R*, of the ſame Lengths as at the other end. This done, ſet off upon the Lines *K K* and *L L*, on each ſide the Stakes *H* and *I*, the Half-breadth of the piece of Water which is alſo two Fathom and a half, where having fixed Stakes, carry from them again the Breadth of the Walks round it. Stake out all theſe Lines from one End to the other, and trace them out ſtretching the Cord from Stake to Stake, and determining by Corner-ſtakes, the Lines that bound the two Diagonal Walks *A D* and *C B*, which complete the Form of the piece of Water and the Hall about it. As to the Sinkings and Niches, for the Seats and Figures, their Returns may be ſet out by the Wooden Square, keeping to the Meaſures found upon the Plan, *Fig.* 3.

OBSERVATION.

IN ſtriking out Baſons or Graſs-plots that have Sweeps at the Ends, raiſe the Center an Inch or two, this always looks well in Work; and ſo it does to make the Breaks but ſmall, they being very diſagreeable to the Eye when they are too big.

THE THIRD PRACTICE.

To trace out a Bowling-green upon the Ground.

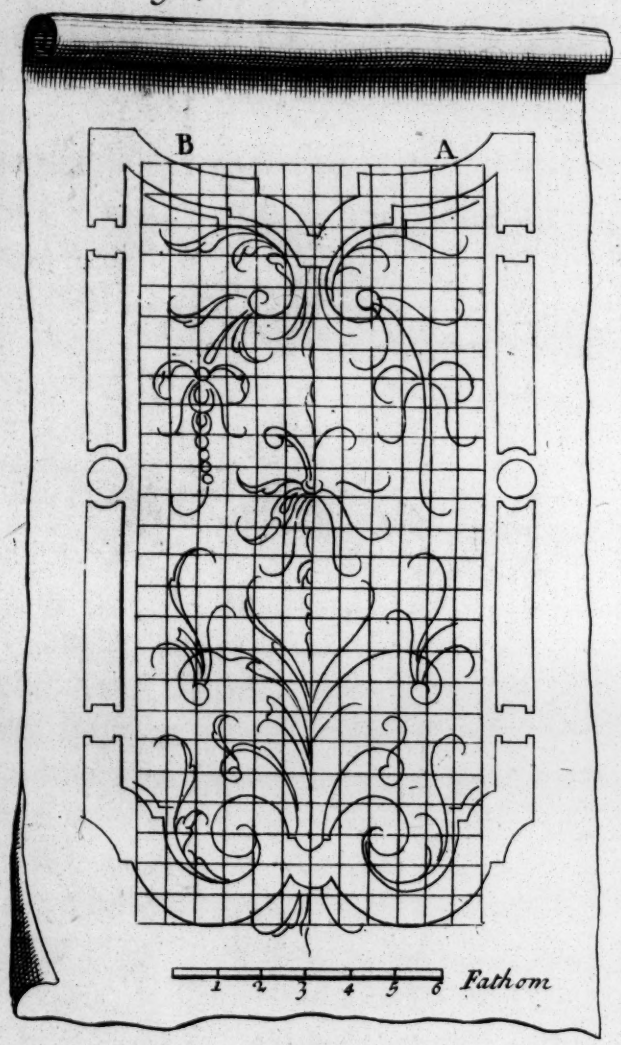
THE Bowling-green marked *X* upon the Plan, *Fig.* 5. being ſtruck out in its octangular Form upon the Surface of the

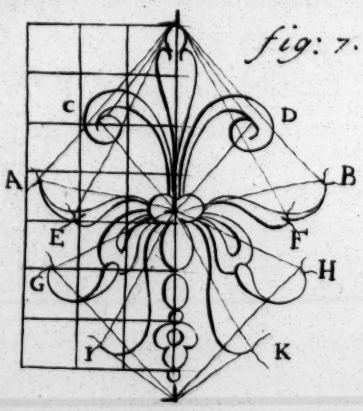
the Ground, *according to the ſixteenth Practice*, I ſhall forbear ſaying any more here, than to ſhew the Method of ſinking it. Plant Stakes at the eight Angles of the Octogone, *Fig.* 6. ſo that they may all ſtand of equal height above the Superficies of the Ground, as a Foot high, ſuppoſing the Surface dreſſed to an exact Level. Obſerve by the Scale what breadth the Slope ought to have from corner to corner; ſuppoſe, for inſtance, ſix Foot, drive ſeveral Spikes at random eight or nine Foot within the Corner Stakes, which will be of uſe to direct the hollowing away of the Earth round about, without taking it away towards the Edges, which ſhould be preſerved for cutting the Banks in the ſolid Ground; this is expreſs'd by the Winding-Line *aaaa*. The greateſt part of the Earth being cleared out of the Middle, *as has been already taught in the ſecond Chapter*; and having groſly formed the Slope all round, that is, cut it away pretty near from the upper Stakes to the Winding-Line *aaaa*; to make the bottom of the Bowling-green perfectly true and even, drive Stakes over againſt each Angle, at eight or ten Foot diſtance in the Range of the Corner-Stakes, and make them of the ſame Height. Meaſure downwards upon theſe Stakes one Foot, which is the Height of the upper Corner-Stakes and make a Mark with Coal. Add to this the Depth you would give the Bowling-green, ſuppoſe two Foot, and bank up or clear away the Earth from the Foot of theſe Stakes as need requires, ſo that they have all juſt three Foot Height. Then fix a Line at the Foot of one of theſe Corner-Stakes as at *H*, and upon the black Mark made on the Stake *K*, which anſwers it, tie the other End of the Line: And meaſure upon it ſo ſtrained ſix Foot, the breadth of the Slope from Corner to Corner, at the end of which ſix Foot let fall a perpendicular Line to the Bottom, and level and trim the Ground for planting a Stake there up to the Head. Do the ſame at the ſeven other Corners of the Bowling-green; and having thus found and fixed Stakes in the eight lower Corners, ſtrain the Line from Corner to Corner, and trace out the lower Octogone. This done, ſet Stakes throughout the Whole, keeping their Heads to the exact Height of thoſe above, as *B C D E F G*, and bring them all to the Height of three Foot. Then ſtrain a Line from one to another, and by Pattern-

Lines

The Parterre C drawn & Squar'd over upon paper.

fig: 1st





The same Parterre C Squared out & traced upon y^e Ground.

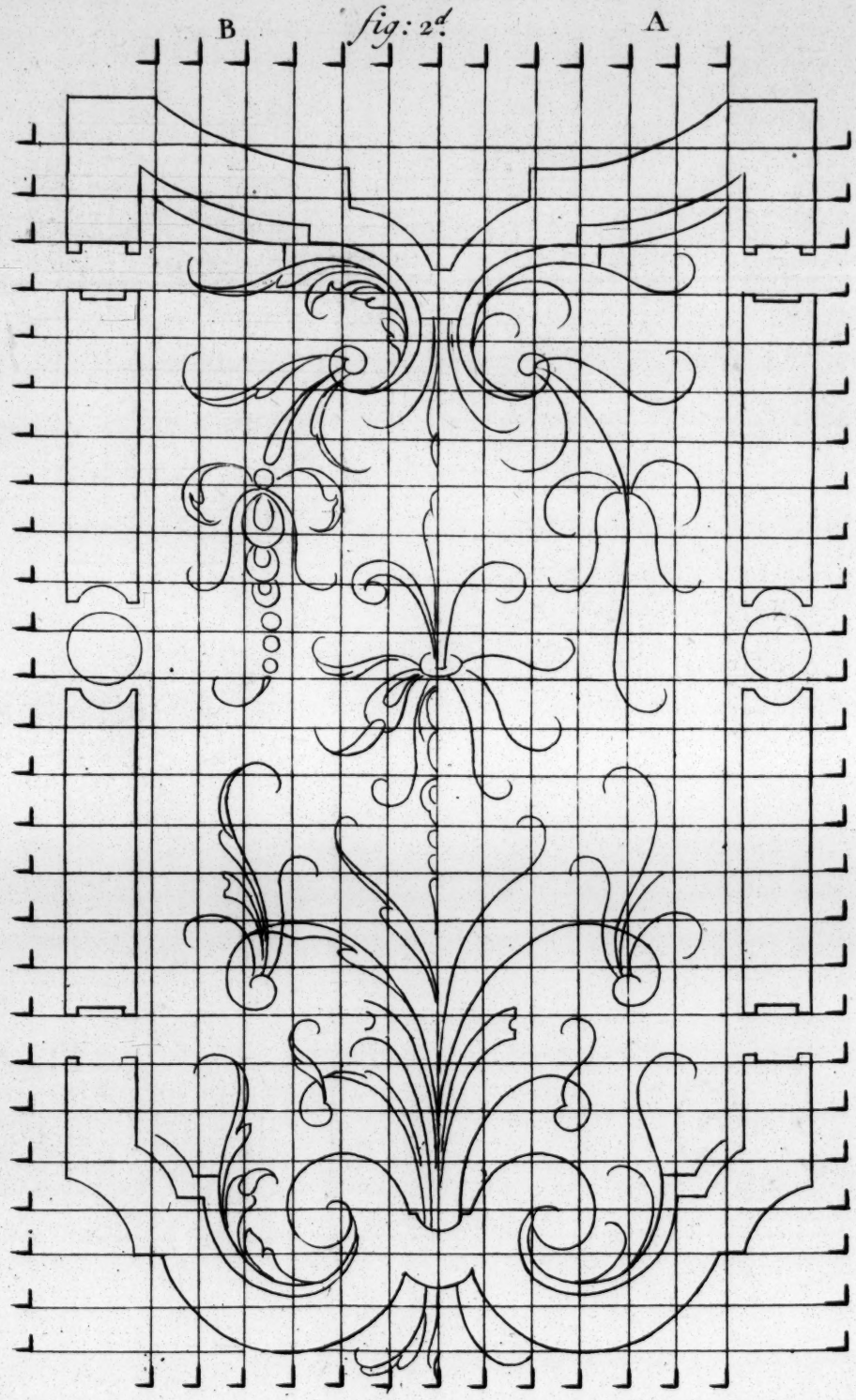
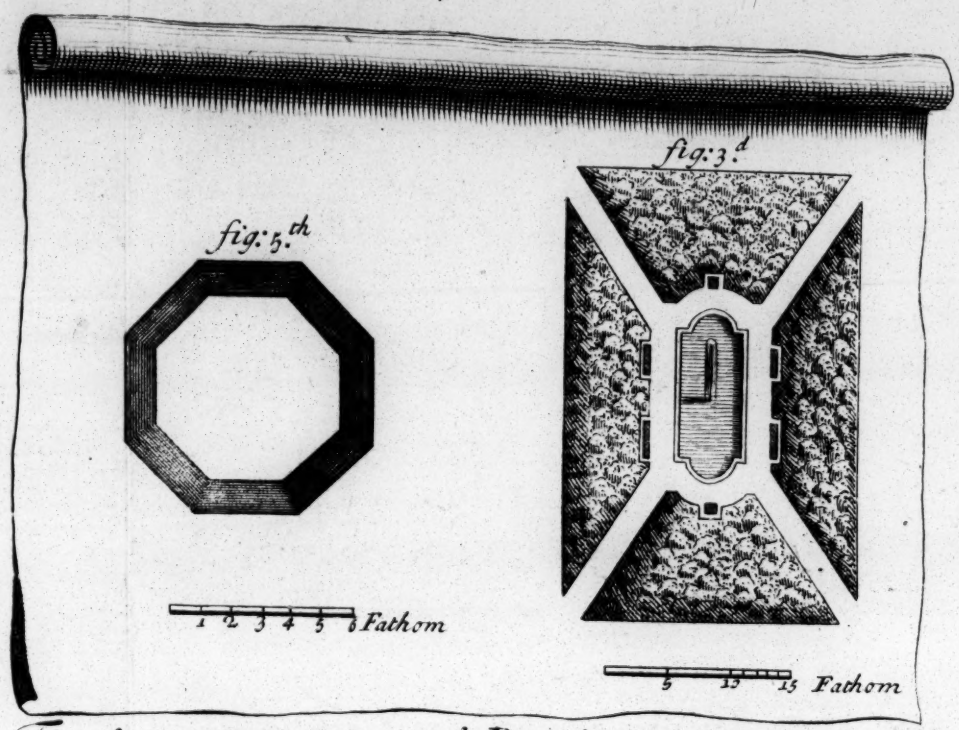


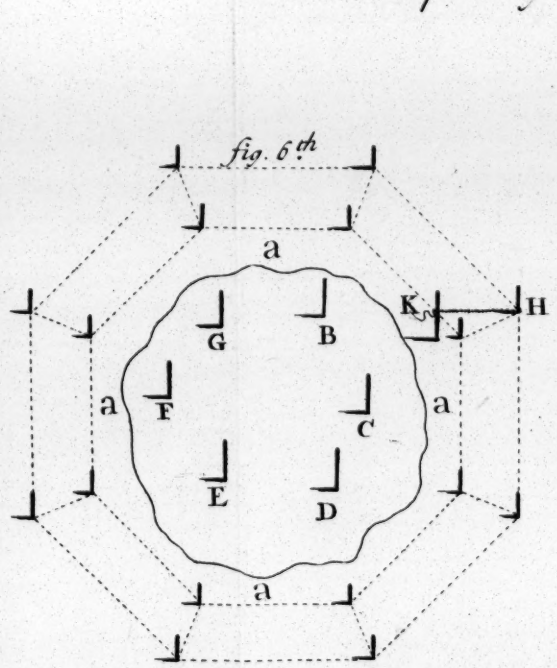
Plate K

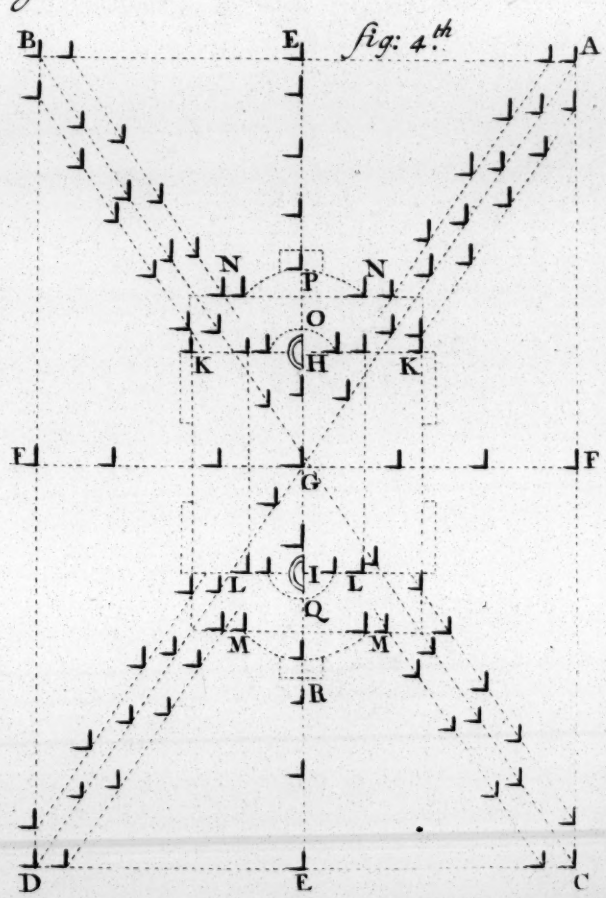
raced

The Grove V & *y^e Bowling-green* X *design'd upon paper.*



The Same Grove V & *y^e Bowling-green* X *traced out upon y^e Ground.*





M. T^es Gucht Sculp.

Lines or Furrows level all the Bottom of the Bowling-green, *according to the ſecond Practice of the ſecond Chapter.* As to the Manner of cutting and making the Slope, you may have Recourſe *to the fourth Practice, and to the Remarks upon the foregoing Chapter.*

WHEN theſe three Practices are well underſtood, and you have traced upon the Ground this Parterre, Grove, and Bowling-green, you will be able to do a great Number of them with eaſe; for tho' their Deſigns may be different, they may all be referred to the ſame Method. Thus, a Gardener who has a Parterre or a Grove to ſet out, has no more to do than to conſult the Practice of tracing a Parterre, or Grove, *&c.* and in following preciſely what is there taught, he will eaſily obtain his End.

I SHALL ſay nothing here of ſetting out a Kitchen-Garden, a Grove in Quincunce, a Parterre after the *Engliſh* Manner, *&c.* theſe Sorts of Deſigns being very eaſy to deſcribe, when you have well practiſed what has been juſt now taught, upon the Subject of ſuch as are much more compoſed, and conſequently more difficult to trace out upon the Ground.

YOU muſt obſerve, that in Lines and Ranges of great Length, it is much more exact to meaſure at both Ends, than in the Middle only.

WHEN upon the Ground you meet with any Error between your Work, and the Plan upon the Paper, which often happens, you muſt prove and examine all the Meaſures one after another, to find out where the Miſtake lies; and if you cannot diſcover it, and the Error be but inconſiderable, divide it into two; it will never be perceived upon the Ground, and it is hardly poſſible to be ſo circumſpect, but ſome petty Miſtakes will happen.

IF any Difficulty ariſes in the Practices before mention'd, as to the Uſe of the Semi-circle, Fathom, Line, or the not underſtanding any Term there uſed, you may have recourſe to the three foregoing Chapters.

It will not be from my purpoſe, before I finiſh this part, to ſhew how to recover the Center of a Circle, of an Octogon, or an Oval, *&c.* which has been loſt or removed in Planting. There is often need of this though the Garden be new, either

to change the Turf of round pieces from Time to Time, that of the Borders of Baſons, of Bowling-greens, and of Large Graſs-plots whoſe ends are turned circularly, or to make other Alterations in Gardens that are old.

THE ſame Practice ſerves for a round Bowling-green, as for a flat Circle: it conſiſts in taking the middle of the Walks which terminate upon it, and fixing Stakes there, range two Lines a-croſs, and in the place where they interſect, drive down a Stake, which ſhall be the Center ſought. If there are but two Walks that range upon it, take the middle of the Diameter of the piece exactly, and that ſhall be the Center.

TO new-lay the Turf about a round Baſon, you put the Line upon the Quill of the Spout, and doubling it, trace out the Circumference of your Work, which is parallel to that of the Baſon: it ſometimes happens that there are Figures in the Middle of a Baſon, which creates ſome trouble when the Quill of the Pipe is incloſed in the Figure; but there needs no more than to fix a Stick in the Quill, and put the Line about that to perform the ſame thing.

THE Octogon and Oval, are eaſily drawn a-new by the Methods before taught, obſerving to trace them by the ſame Points they paſt before, that they may agree with the neighbouring pieces. As to great Green-plots with Circular Ends, as in the *Engliſh* Parterres of Compartiment, they may be new drawn by following the Pegs or ſmall Stakes, which you ſhould have the precaution to drive down all round before you take the Turf away, *as was ſaid before page* 83. and if their Parts be very full of Work, you may deſign them again upon Paper, and chequer out the Ground as in the making a Parterre.

THERE is no difficulty in all theſe Pieces, unleſs it be when you meet with a Pedeſtal in the Center; this is nothing in an Octogon, for inſtead of deſcribing it from the Angle at the Center, you may do it from the Angle of the Polygon, nor does the Oval give any great trouble, the two Centers being out of the way of a Pedeſtal ſet in the Middle, from which you may trace it almoſt quite round, and finiſh the reſt by your Eye; but in ſuch Circles as have Figures in their Center, they would be very troubleſome, but for the two following Expedients,

dients. The firſt is to make uſe of a wooden Hoop, ſo ſtrong that it will not eaſily bend, which may be faſtened about the Pedeſtal ſo as juſt to clear its four Corners; tie to this a Line or Cord of a Length proper for your Circle, and cauſe the Hoop to be held up by a Man in ſuch manner that it may turn eaſily about the Pedeſtal, and that it may be near parallel, as the Cord it ſelf ſhould be, to the Line of the Ground; then putting the Tracing-pin through the end of the Cord, you draw your Circle true enough for Practice; for it cannot be pretended to be ſo in the utmoſt Geometrical Strictneſs. In a Bowling-green you may trace the two parallel Circles one after the other. The Pedeſtal is ſuppoſed to be round, or a perfect Square, which are the moſt uſual Figures; for in a long Square this Practice is of no uſe. The ſecond way is of ſervice only where there are Trees or a Hedge round about the Graſs, you may then ſet off from each Tree or from the Sweep of the Hedge the ſame Diſtance at every Foot, ranging it always ſomewhat near to the Middle of the Pedeſtal, as the Center, and fix ſmall Pegs where the Circle is to paſs, by which you afterwards ſtrike it out as exactly as you can by your Eye. This Method is never ſo good as the former, being ſubject to ſome Unevenneſſes, tho' they are not to be perceived upon the Ground.

The Trouble of finding theſe Centers might be in ſome meaſure avoided by driving Pegs of Oak into the Ground, when you firſt draw the Circles; but in length of time thoſe Pegs will rot.

The End of the Second Part.

PART III.

Which contains the

Practice of GARDENING,

With Reſpect to the

Manner of PLANTING.

CHAP. I.

Of the Choice that ought to be made of Trees proper for Pleaſure-Gardens, and of their good and bad Qualities.

'TIS of no ſmall importance, to know how to chooſe the Trees and Plants that are to be made uſe of in Gardens. Thoſe who have the greateſt Skill, oftentimes find themſelves deceived in ſpite of all their Experience: However, there are ſome pretty ſure Marks whereby to diſtinguiſh good Plants from bad ones; which are to be found at

at the End of this Chapter, whither I refer you for all I have to ſay, or can be deſired, towards making a true Judgment of their Goodneſs.

ALL the Trees that are commonly made uſe of in Pleaſure-Gardens, come under two Sorts of Names, the *Wild*, and the *Aquatick*.

We have alſo Flowering-Trees and Shrubs, of which I ſhall ſpeak hereafter.

THE Wild are ſo called, becauſe they naturally grow in Woods and Forreſts, as the Oak, Elm, Cheſnut, Hornbeam, *&c.*

THE Aquatick, which are much fewer in Number, are ſo named, becauſe they delight in watery Grounds, and grow better there than any where elſe, as the Aſp, Poplar, Alder, *&c.*

IT will not be improper, before I come to ſpeak particularly of the following Trees, to explain what is meant by Sets, Shoots or Suckers, and Layers; when we ſay a Tree comes up from a Set or Cutting, 'tis to be underſtood, that there is no more to be done, than to cut a Branch, ſharpen it at the End, and thruſt it into the Earth, to make it take Root, and produce a Tree of the ſame Kind. Whereas Shoots or Suckers are the ſmall Twigs and Branches, that a Tree puts out at the Foot, and which are taken off with all their Roots about them, when they have got a little Strength. Theſe, to ſpeak properly, are Roots ſplit off and ſever'd from the Mother-root. To lay Layers, is nothing elſe than to chuſe ſome Shoots or hanging Branches at the foot of the Tree, and pruning them ſo that the part which lies in the Ground be intirely ſtript of its Leaves; without cutting them, bed them five or ſix Inches deep in the Earth to make them ſtrike Root. Thoſe that are too ſtiff, may be kept down by hooked Sticks drove into the Ground, and the ſecond Year you may * ſeparate them from the Body of the Tree for tranſplanting.

Theſe Deſcriptions are not ſuited to Botanicks, *which have other Objects than thoſe of Agriculture, but are made here only to give an* Idea *of each Tree with regard to its Propriety in fine Gardens.*

* *The* French *call it weaning a Layer.*

I COME now to the Deſcription of all theſe ſeveral Trees, particularizing them one after another, and ſpeaking of their good and bad Qualities, which it is very material to know well, in order to make a good Choice of them: I begin with the Oak.

The Oak.

THE Oak is, if I may ſo ſpeak, the King of Trees, being one of the fineſt the Earth produces: It is very long a growing, but then it is likewiſe of the longeſt Duration. It ſtrikes a

Root

Root into the Earth almoſt as long as the Shoot it makes above Ground, which ſecures it againſt the higheſt Winds. It grows upright and tall. Its Wood is very hard, and moſt coveted of any for Building. Its Leaf is fine, and affords a great deal of Shade. The Oak is more proper for Woods and Foreſts, than to form ſtrait Walks, and is ſomewhat ſubject to * *May*-Bugs, and other Vermin. It yields a Fruit called an Acorn, which is ſown or ſet in the Earth, by which it is propagated. This Fruit ſerves alſo to feed and fatten Hogs.

* *Theſe are by ſome called Chafers, or Cock-Chafers.*

Elm.

THE Elm, likewiſe, is one of the fineſt Trees that grow. 'Tis ſaid of this, and of the Oak, that they are a Hundred Years a growing, a Hundred Years at a ſtay, and a Hundred Years decaying; from whence you may judge they laſt a long time. It ſhoots up ſtrait, and very high: Its Leaves are ſmall, but very thick; its Wood hard, and very proper for Wheelwrights Work; its Bark is ſomewhat rugged and uneven. The Elm grows faſter than the Oak, and is more eſteemed for planting Walks and Groves. It is at preſent very much in uſe, tho' many People will not plant it; becauſe they ſay the Elm is too luxuriant, ſpreading its Roots very far, in great abundance, and almoſt even with the Surface, which ſpoils the Ground about them. It is very ſubject to the Caterpillar and Worms; it produces Seed, and is multiplied by Shoots and Suckers from the Foot of the great Trees.

Dutch *or Imperial Elm.*

* *An Opinion very unlikely, to believe Trees have their Male and Female: However, Authors are ſo divided upon it, that 'tis a Queſtion undetermin'd at preſent.*

Cheſnut.

WHAT we call *L'Ypreau* in *France*, is no other than the Elm with broad Leaves, commonly called the * Female Elm, which is very much ſought after for fine Walks; 'tis call'd *Ypreau*, becauſe it comes originally from the Neighbourhood of *Ypres* in *Flanders*. Its Leaf is very broad, and much finer than that of the common Elm; it makes its Shoots very ſtrait, and its Rind is very bright and ſmooth; it is a very quick Grower, but laſts not ſo long as the other Elm. It yields a Seed, and puts out Suckers, but is ſubject to *May*-Bugs, Caterpillars, and other Inſects.

THE Cheſnut is one of the moſt conſiderable Trees that are, in reſpect of its Profit: It grows upright and tall, but does not like every Soil. Its Bark is fine and bright, and its broad Leaves make an agreeable Shade: It is more proper

to plant in Woods than in Walks, unleſs it be in the Country, or in ſome Park, where you ſet them in By-Places: Its Timber is white, and bends eaſily, and is made uſe of for Hoops: Its Fruit, the Cheſnut, is much eſteemed, and is very profitable. There is abundance of them eaten, and in ſome Countries they make Bread with them. This Tree likewiſe laſts a long time, and is ſubject to no Vermin. 'Tis pretended too, that Carpenters-work made of Cheſnut-Tree, will never rot nor decay. Cheſnuts are ſown as Acorns.

Lime-Tree.

THE Lime or Linden-Tree, is one of thoſe that are moſt ſought after for planting Alleys and Groves. It grows ſtrait and high enough, makes a fine Head, and its Rind is ſmooth, and very bright: In the Summer-time it puts out Flowers, the Smell of which is very agreeable: Its Wood is not the moſt eſteemed, being white, and of little uſe in Work; however, they make Well-Ropes of its Rind. This Tree is ſubject to no Inſects; but it weeps, and eaſily grows hollow, ſo that 'tis of no long duration. There is a Kind of it call'd the *Dutch* Lime, which is moſt eſteemed, becauſe of its large Leaves; it yields a Seed, and is eaſily produced by Layers.

The Indian *or Horſe-Cheſnut.*

THE *Indian*, or Horſe-Cheſnut, ſo called, becauſe the Cheſnuts were brought firſt from *India*, that multiplied the Species of them in *France*, is one of the moſt agreeable Trees to Sight that can be. Its upright Stem, its ſmooth Rind, its regular Head, its handſome Leaves, and its pyramidal Flowers, make it ſought after more than any other. It is proper only for making Walks, being a very ill Tree to plant in Squares of Wood. It does not riſe very high, but grows very upright; its Wood is tender, breaks eaſily, and is fit for no Uſe, not ſo much as to burn, growing only black, and deadning the Fire, ſo that it is a Tree of no kind of Profit. Its Fruit is good for nothing but to plant, yet 'tis reported, they have lately found the Secret of making Powder for the Hair with it: 'Tis alſo pretended, that they are good for ſhort-winded Horſes, whence they have the name of Horſe-Cheſnuts. All the Excellency of the Horſe-Cheſnut lies in its growing faſt, but then it laſts but a little while, and is very ſubject to *May*-Bugs and Caterpillars, which ſtrip it ſo entirely of its Leaves, as to leave its Head quite naked and bare.

THE

Beech. THE Beech is a Tree that grows very beautiful, and one of the ſtraiteſt that are; its Bark is ſmooth and ſhining, its Leaf ſomewhat ſmall, but very handſome; its Wood hard, and uſeful for abundance of Works. This Tree is very fit to form Walks, Paliſades, and Woods; but 'tis very ſubject to *May*-Bugs and Caterpillars. It produces a Fruit called *Beech-maſt*, which is eaten by ſome, and has the Taſte of a ſmall Nut: They make Oil of it, and ſometimes Bread, in Times of great Scarcity; its Species is propagated by ſowing the Fruit.

Horn-beam. HORN-BEAM has much conformity with the Beech, their Bark and Leaf being very much alike: It is fit, as the Beech is, to form Walks, Paliſade-Hedges, and Woods; but eſpecially Hedges, in which 'tis made uſe of more than any other Plant. Then the *French* change its Name, and inſtead of *Charme*, call it *Charmille*, which imports no more than ſmall Plants of Horn-beam about two Foot high, and no bigger than one's little Finger; it bears no Fruit, but abundance of Seed, which is very tedious to raiſe; its Wood is very good to burn. This Tree is difficult to take Root, unleſs it be in freſh Land, and is very ſubject to Caterpillars and *May*-Bugs.

Maple. THE Maple has this peculiar Excellency, that it grows in the Shade, and under great Trees. It riſes to a moderate Height, but ſomewhat crooked; its Wood is very hard and full of Veins, and is made uſe of for ſeveral Moveables, and Muſical Inſtruments; its Bark is very rugged, its Leaf of a pale Green, and not ſo handſome as that of the Beech or Horn-beam. 'Tis made uſe of to fill up a Wood, and to plant Hedges, and is at preſent much in requeſt. It grows very faſt from Seed, but is ſomewhat ſubject to *May*-Bugs.

Aſh. THE Aſh is the meaneſt of all theſe Trees; 'tis not but that it grows fine and ſtrait, but the little verdure it affords, and its unwholeſome Shade, make it ſeldom uſed in Gardens, unleſs it be in Woods; its Leaf is extremely ſmall, and of a pale Green; its Timber is very ſmooth and free from Knots, which makes it uſeful for ſeveral Purpoſes. This Tree is very ſubject to the Flies *Cantharides*, and yields a Seed by which it is propagated very faſt.

THE

THE Sycomore riſes pretty high; its Wood is very tender, and when broken, there comes a Milk out of it, as out of the Fig-Tree; it is fit for little or no Uſe; its Rind is ſmooth enough, and its Leaf, which is much like that of the Vine, is very large: It laſts not long, and a little matter kills it: The beſt Quality it has, is, that it grows very faſt, and in any Ground. This Tree is ſo ſubject to all Sorts of Vermin, that it is not much ſought after for Gardens: It produces a great deal of Seed, which falling of itſelf, grows with as much eaſe as Weeds do. *Sycomore.*

THE Birch is one of the leaſt Trees, tho' it riſes to a ſufficient Height. Its Wood is white, and good for nothing but to make Brooms, and ſuch trifling Buſineſſes; its Rind is whitiſh, and ſomewhat rough. It affords but little Shade, its Leaves being very ſmall, and like thoſe of the Poplar. This Tree helps us to the firſt Verdure of the Spring, and is liable to no ſort of Vermin, which is the beſt that can be ſaid of it, but it is very ſubject to weeping. There is ſome Controverſy, whether this Tree be of the Aquatick or Wild Kind, becauſe it grows equally well in moiſt or dry Places; it yields a great deal of Seed. *Birch.*

THE Acacia, called the *Common Acacia of* America, was formerly much in vogue. This is a Tree that does not riſe very high; its Wood is hard and uneven, its Leaves ſmall, affording but little Shade, and its Boughs full of Prickles. All this Tree could be valued for, formerly, when they planted abundance of Walks and Arbors with them, was, that it grows very faſt, and puts out Flowers in the Spring that have a very agreeable Smell. But being a Tree very ſubject to weep, having a rugged Bark, and very ſmall Leaves, it is at preſent in no great Eſteem. They have got a Cuſtom of heading it from Time to Time, which makes it look even worſe than otherwiſe it would do. This Tree alſo ſeeds, as well as the others. *Acacia.*

THE *Platanus*, or Plane-Tree, is one of the nobleſt Trees that are; 'tis not ſo common in *France*, as in *Italy* and *Spain*, by reaſon it naturally loves hot Countries. This Tree riſes very ſtrait and beautiful, and yields abundance of Shade: Its Wood is hard and inclining to white, as is alſo its Bark, which is very ſmooth: Its Leaf reſembles that *Plane-Tree.*

of the Sycomore; 'tis raiſed from Seed in *France*, but not without ſome difficulty.

Aſp. THE Aſp, or Aſpen-Tree, as well as the three following, is of the Nature of thoſe that like the Water, which makes them called Aquatick: It ſhoots up tall and ſtrait; its Wood, which is whitiſh and light, ſerves for many Purpoſes; its Bark is ſmooth, and inclining to white; its Leaves are round, of a pale Green, and always ſhake with the leaſt Breath of Wind, for which reaſon the *French* call it *Le Tremble*. There are fine Walks of it planted about Canals and Ponds; it grows very faſt, and is raiſed by Slips and Layers.

Alder. THE Alder-Tree grows very tall and ſtrait; its Wood is pretty much like that of the Aſp, and its Leaf like that of the Haſel; its Bark is very ſmooth, and of a blackiſh Colour. 'Tis of uſe for ſeveral Works, but particularly for making Pipes to convey Water in, and is propagated likewiſe by Sets and Layers.

Poplar. THE Poplar differs but little from the Trees laſt mention'd; its Wood is white, and eaſy to cleave, but ſcarcely of any Uſe. Its Bark is ſmooth and whitiſh, as well as its Leaves, which are broad, clammy, and of a ſhining Green. It grows alſo from Cuttings.

Sallow. THE Sallow or Willow does not ſhoot very high, and is the leaſt of all theſe Trees; its Wood is white, and fit to make Baskets and Poles of; its Bark is very ugly, its Leaves ſmall and longiſh, and of a faint Green. The Willow is very ſubject to weep and grow hollow, and ſo is of no long Continuance; it is headed every three or four Years. It grows from Cuttings, which the *French* call *Plançons*, or Settlings, which they plant upon the Banks of Rivers, and in marſhy Places.

THE Trees we call Aquatick, have a peculiar Merit, which diſtinguiſhes them very much from thoſe of the wild kind, in that they are ſubject to no Vermin, by a Natural and Phyſical Reaſon, which is, that they are of ſo cold a Nature, that the Inſects cannot lay their Eggs upon them.

ALL the Trees hitherto mention'd, are, in general, called Foreſt-Trees; thoſe that follow being but Shrubs, made

uſe

uſe of in Woods to fill up and furniſh Bruſh-wood at the Foot of the great Trees.

THE White-Thorn, otherwiſe call'd by the *French*, *L'Aubepine*, is one of the moſt conſiderable Shrubs, as well by reaſon of its Flowers, which yield a very ſweet Smell, as for that it allures the Nightingale, the moſt charming Muſician of the Woods. This Shrub grows without difficulty; 'tis armed with very ſharp Prickles, which makes it uſed in planting Quickſet-Hedges, the Approach of which it defends with its ſharp Thorns; its Leaves are indented, and of a very fine Green. The White-Thorn is very ſubject to Caterpillars, and is uſually raiſed from Seed. *White-Thorn, vulgarly call'd in* France. Noble-Epine.

THE Haſel, Filberd, or Nut-Tree, is alſo one of the fineſt Shrubs for garniſhing of Groves; its Wood is very bright, and it puts out abundance of Boughs; its Leaf is handſome and very broad, eſpecially that of the Filberd, the Fruit of which is moſt eſteemed: Its Species is propagated by ſowing the Fruit, or Nuts, or elſe by Layers. This Shrub has ſeveral wonderful Properties attributed to it, relating to Secrets, ſuch as to find out Water, Theſts, Murders, and hidden Treaſures; but theſe are not much to be rely'd on. *Haſel, or Nut-Tree.*

The Cane-Willow is both Aquatick and Wild, and ſhoots up pretty high. Its Wood is white, its Leaf round, and of a bright green; it is multiplied by Layers and Shoots.

THE Ozier is a Shrub of the watery Kind, which ſhoots not up very high. Its Wood is ſlender, and very pliable. 'Tis fit for Hampers, Baskets, and abundance of other Purpoſes, which makes it very profitable, becauſe it is often cut: Its Leaves are like thoſe of the Willow, and it is produced by Cuttings and Layers. *The Ozier.*

THERE are, beſides theſe, ſeveral Kinds of Shrubs, the particular Deſcription of which would carry me too far from my Purpoſe; wherefore, I ſhall content myſelf to give the Names of them in general: ſuch are the Lote-Tree, the Mirobolan-Tree, the Service-Tree, the Cornil-Tree, the Fig-Tree, the White Mulberry-Tree, the Elder-Tree, the Hounds or Dog-Berry-Tree, the Spindle-Tree, the bitter Cherry-Tree, the Neapolitan-Medlar, *&c.* moſt of which are perpetuated by their Fruits.

IN garniſhing Woods, they make uſe likewiſe of Plants of Horn-beam, Maple, Elm, Oaklings, and Cheſnuts, which

are kept headed on purpoſe to make handſome Tufts and Thickets of Under-wood.

NOTHING remains, but to ſpeak of thoſe Trees and Shrubs that are not ſtript of their Leaves in Autumn, but keep their Verdure in the coldeſt Weather in Winter, which gives them the Name of Ever-Greens. Theſe that follow, are ſuch as are ordinarily made uſe of in Gardens.

Yew-Tree. THE Yew is one of the fineſt Ever-Greens; it grows as tall or as low as you pleaſe; and, in a word, may be brought to any Form, by clipping. Its Wood is very hard, its Branches very full of Leaves, of a deep Green, and extremely pleaſant to the Eye. It is fit for Hedges, as alſo for garniſhing the Borders of Parterres. 'Tis pretended, that its Shade is very dangerous and * unwholeſome. It bears a Seed which is very long a raiſing, and is multiplied alſo by Layers.

* Fatale eſt dormire ſub Ifum.

Picea. THE Picea, or Pitch-Tree, is pretty much like the Yew in its Wood and its Leaf, but it ſhoots up much higher, and does not grow ſo handſome, nor ſo thick of Branches, as the Yew does. It is proper only in Woods, and in great double Walks, where 'tis planted between the detached Trees. They make no uſe of it now-a-days in Parterres, becauſe it grows too high, and is very ſubject to be unfurniſhed at Foot. The Picea bears a Seed which is not ſo long a coming out of the Ground, as that of the Yew.

Fir-Tree. THE Fir-Tree is one of thoſe that riſe the higheſt and ſtraiteſt of any; its Timber is white of Colour, and light, but very ſtiff, which makes it uſed for Maſts of Ships. Boards are likewiſe made of it, which ſerve for abundance of Purpoſes: Its Leaves are much like thoſe of the Yew; it is fit only for Woods and Foreſts, and eſpecially for hilly Places. It bears a ſcaly Fruit of a pyramidal Figure call'd the *Fir-Apple*, which contains the Seed.

Pine-Tree. THE Pine is a Tree very different from the Fir, though many People confound one with the other. It ſhoots up very high, and pretty ſtrait: It puts out abundance of Branches above, and is quite naked below. Its Timber is reddiſh and heavy, and its Leaves are narrow, long, and prickly; its Bark inclines to a black, and is very rough. It produces a roſinous Gum, with which they make Pitch and

Tar

Tar for Shipping. This Tree, as well as the Fir, loves Mountainous Places. Its Fruit is call'd the *Pine-Apple*, in which the Seed lies.

THE Cypreſs is a very beautiful Tree, and riſes to a great Height. It is furniſhed very thick from its Foot to its very Top, which terminates in a Point. Its Timber is very hard, and of a good Smell: Its Leaves, which are of a whitiſh Green, are very thick; it is equally proper for making Walks or Hedge-rows. Its Fruit, call'd the *Cypreſs-Apple*, incloſes its Seed, which is ſomewhat tedious to raiſe. *Cypreſs.*

THE Scarlet-Oak, or Holm, ſomewhat reſembles an Apple-Tree or Pear-Tree; it does not riſe ſo high as the common Oak, and its Wood is very different, but its Leaves and Acorn are much like it, except that they are ſmaller, and of a light Green. This Tree is proper to make Walks of, and its Species is perpetuated by the Acorn it bears. *Scarlet-Oak.*

THOSE that follow, are only the Shrubs and Plants made uſe of to form Hedges and to furniſh the lower Parts in Woods of Ever-Greens.

THE Holly paſſes for one of the fineſt Ever-Green Shrubs that are to be met with; it grows pretty high, and is of a ſhining and very charming Green: Its Wood is Greeniſh, of which they make Wands and Riding-Switches. Its Leaves are jagged, and beſet with Prickles, and ſometimes ſtriped or gilded. It is multiplied by Seed. *Holly.*

THE Juniper-Tree ſhoots pretty high, and has a very agreeable Smell: Its Wood is very hard, and its Leaves ſmall and prickly: It is produced from Seed. *Juniper.*

THE Phillyrea is a Shrub that grows very thick and is much valued for Hedges. Its Wood is blackiſh, and its Leaves reſemble thoſe of the Olive, but are ſhorter, and of a tolerable good Green. It grows without Difficulty even in the Shade, and is propagated either by the Seed or Layers. *Phillyrea.*

SABIN, or Savine, grows very tall for a Shrub; its Stem is ſomewhat bulky, and its Wood is very hard; its Leaves are like thoſe of the Cypreſs-Tree. It is multiply'd by Seed and Layers. *Savine.*

THE Alaternus reſembles the Olive-Tree in its Leaves; they are of a deep Green, and pretty thick; it is very fit to make Hedges, and is raiſed from Layers. *Alaternus.*

THE

Box.

THE Box-Tree is a green Shrub of the greateſt Uſe, and one of the moſt neceſſary in Gardens. There are two Sorts of it; the Dwarf-Box, which the *French* call *Buis d' Artois*, the Leaves of which are like thoſe of the Myrtle, but greener and harder. This is made uſe of for planting the Embroidery of Parterres, and the Edgings of Borders; and is called Dwarf-Box, becauſe it naturally grows but little. The other Kind is the Box-Tree of the Woods, which advances much higher, and has bigger Leaves than the former, which makes it fit for Hedges, and green Tufts for garniſhing of Woods; ſome of it is ſtriped or gilded; it comes up in the Shade, but is a long time a gaining any conſiderable Height: Its Wood is yellowiſh, and very hard. It is put to a great many petty Uſes, as the making of Combs, Balls, *&c.* Both theſe Kinds of Box yield a Seed, but it is commonly produced by Slips.

ONE thing muſt be ſaid in praiſe of theſe Ever-Green Trees and Shrubs, that the Hardneſs of their Wood and Leaves, ſecures them from all Sorts of Inſects and Vermin.

THE Advantage to be drawn from Ever-Greens, rather reſpects the Art of Phyſick, in which they afford ſeveral Remedies, than the Uſe to be made of them in Trade, whether for Building, Artificers-Work, or Fewel, in all which the Trees firſt mention'd at the Beginning of this Chapter, are very ſerviceable; and upon this Account it is that there are ſo great a Number of theſe Ever-Green Plants in the Royal * Phyſick-Garden.

* Fauxbourg S. Victor.

THESE are all the Trees and Shrubs that are ordinarily made uſe of in fine Gardens. In the ſhort Deſcription of which, I have endeavoured to include a general Idea of each Tree, mentioning its Height, its Leaves, its Wood or Timber, and the Uſe that is made of it; its proper Place in Gardens, the Vermin it is ſubject to, and the Manner of perpetuating its Species, which are all of Uſe to guide you in the Choice you have to make of them. However, I now proceed to give you my Opinion of thoſe that ſeem to me to be the beſt, and which I adviſe you to make uſe of in your Gardens.

THE Trees generally made uſe of to form handſome Walks, are Elms, Limes, and Horſe-Cheſnuts: Walks of Elms,

Elms, when well kept, grow very tall and lofty ; they put out beautiful Leaves, and are withal very laſting: Walks of Limes are likewiſe very handſome, eſpecially when they are *Dutch* Limes. Theſe Trees are known to ſhoot up very high, they have a ſmooth Bark, an agreeable Leaf, and yield abundance of Flowers that ſmell very ſweet; beſides which, they are ſubject to no Sort of Vermin. Theſe are the two Kinds of Trees I adviſe you conſtantly to make uſe of, preferably to the Horſe-Cheſnut, notwithſtanding it is ſo much in faſhion. I cannot deny but the Horſe-Cheſnut is a handſome Tree; 'tis certain it grows very ſtrait, has a fine Body, a poliſh'd Bark, and a beautiful large Leaf; but the Filth it makes continually in the Walks, by the Fall of its Flowers in the Spring, its Husks and Fruit in the Summer, and its Leaves in the Beginning of Autumn, mightily leſſens its Merit: Add to this, that it is very ſubject to *May*-Bugs and Caterpillars, which often ſtrip it quite naked in the Summer-time; that its Shade, as is pretended at leaſt, is very unwholeſome; that it grows but to a moderate Stature, laſts but a very little while, and that its Timber is of no manner of Profit.

In Avenues that lie in open Fields, we make uſe of Elms or Cheſnut-Trees, and in moiſt Grounds, of Willows, Aſpen-Trees, *&c.*

You ſhould obſerve never to plant Elms too near Kitchen-Gardens, Fruit-Trees or Flower-Borders, becauſe their Roots which run along the Ground devour every thing, and the Fruit and Flowers will never thrive as they ought. In their place you may put Lime-Trees and Horſe-Cheſnuts, whoſe Roots take up but little room.

The right way of chooſing Elms, Limes, Horſe-Cheſnuts, and generally all the Trees above-mention'd, conſiſts in the three following Obſervations, which contain all that can be ſaid upon this Subject.

The firſt is to examine if a Tree be ſtrait, of a fine Stem, of a bright and ſmooth Rind free from Moſs; if it have good Store of Roots, and very fibrous; if it be well drawn, without breaking or wronging the greater Roots. You can't be deceived in believing a Tree in this Condition good, ſince it has all the Qualities requiſite to make it, in Time, a fine Tree. But, if the Plant be crooked, ſhort,

and

and miſhapen, its Bark ſcabby and full of Moſs, and its Roots broken and ſhiver'd, or very much unfurniſh'd, and not fibrous; the Tree is doubtleſs good for nothing, and you ought to reject it entirely. You may confidently depend upon this Obſervation, which indeed is the moſt eſſential of all, and will hold as a general Rule for all the Plants you can ſuppoſe.

THE ſecond Thing material to be obſerved in the Choice of Trees, is, that they be taken out of worſe Ground than you intend to put them into. The Reaſon is, that the Trees liking this better Earth, take Root again ſooner, become more bulky and ſtrait, grow infinitely faſter, and are not ſo ſubject to be cover'd with Moſs. Whereas, if your Plants come out of as good Earth, or better than that into which you remove them, they droop and languiſh, grow crooked, grubby, and full of Moſs; and at laſt die away, and ſeem to bewail, if I may ſo ſay, the Loſs of their firſt Nurſe.

THE third Obſervation is, not to inſiſt too much upon the Bigneſs of Trees; for I look upon a Tree of a moderate Size, to be better than all the great ones that are ſought with ſo much Earneſtneſs; and there is more Hope of its taking Root when 'tis about ſix or ſeven Inches in Compaſs, than when 'tis very large. There are more of theſe great Trees die, notwithſtanding all the Precautions that can be taken, than of thoſe that are of the Size I mention.

AS to Hedges, the Plants that are moſt eſteemed for them, are Horn-beam, Beech, and Maple, which, to be good, ſhould have their Bark bright and ſmooth, and their Root very fibrous. They ſhould be drawn from a Nurſery, where they were raiſed from Seed; you may eaſily know that a Plant is taken from a Nurſery, when it is ſtrait and fair, and its Tap-Root not hooked; for the Plants of Horn-beam and Maple, that are drawn out of the Woods, are not worth tranſplanting, being no better than Shoots and Suckers from thoſe Roots, which the *French* Gardeners call *de la Croſſette*, from their having the form of a Croſs.

THE beſt of theſe three Plants, in every one's Opinion, is Horn-beam; but unleſs it be planted in freſh Ground, and a very clear Expoſure, it is difficult to raiſe: Maple, on the contrary, grows every where, as well in the Shade as in the

open Air, its Fault is, that it is ſomewhat ſubject to grow Yellow.

THE Trees moſt proper for Porticos, Colonades, Arcades, Peers, Cabinets and Green Galleries, are the Horn-beam, the Lime-Tree and the Elm. The Nature of Horn-beam makes it fit for Hedges, being full of Branches to the very Foot, and requiring to have its head cut, without which it is apt to periſh. The Lime-Tree naturally bends and takes any Form you pleaſe to give it, and by its great number of Branches makes a very thick tufted head. But the Male Elm, as we call it, is preferable to either of theſe, being capable of all Sorts of Figures, growing very faſt, being leſs ſubject to grow bare and to periſh than the Horn-beam; leſs liable to break than the Lime, and more eaſy to take in any ſort of Ground. All the fault of the * Elm is, that it is a much greater charge to keep clipt than the others: By reaſon it is continually putting out little Shoots which deviate from the Contour of the Arches, and from the Upright of the Pilaſters.

**All the beautiful Pieces at* Marly *are planted with Elms and Lime-Trees.*

FOR ſuch Squares of Wood as you would have ſhoot up very high, all the Trees before mention'd may be employ'd in them; however, thoſe that are moſt eſteemed, are the Oak, Elm, Cheſnut, Beech, and Horn-beam, which grow very tall, form a beautiful Covert, and are very profitable. For planting Thickets and Under-wood at the Foot of the great Trees, the Horn-beam, Maple, Filberd, Lime-Tree, and White-Thorn, are the beſt, and make the moſt buſhy Heads; however, all Plants in general are not improper for this Uſe.

IN low and marſhy Places you may plant Aſp, Poplar, Birch, and Alder, as beſt for the high Trees, and fine Walks, and fill up with Oziers, Willow, Cane-Withy, Haſel, *&c.*

AS for what concerns Woods of Ever-Greens; Cypreſs, Fir, Pine, Picea, and Scarlet-Oak, ſhould be choſen to make the Walks, and tall Wood within, as being thoſe that ſhoot the higheſt, and moſt upright. You may plant the Paliſades or Hedges with Yew, Box, Phyllirea, and Cypreſs; and the Thickets with Juniper, Savine, Lawrel, Alaternus, Holly, and other Ever-Greens above mention'd.

All ever-green Trees and Shrubs, to be good, ſhould be of a deep and very lively green inclining to a dark, without look-

ing changed or yellowiſh, which is their Diſtemper. They are raiſed in Baskets of Earth, in which you ſhould take care they have been ſet at leaſt a Year or Two; this is a very neceſſary Caution in order to their ſtriking root the better.

THE Box with which we plant Hedges, is the Wood-Box, which we take pretty high and ſtrong, with good Roots well haired or full of Fibres. For the Dwarf-Box wherewith we plant the Embroidery of Parterres, it ſhould be young, very fibrous, not too dry, and that which has the ſmalleſt and fineſt Leaf is the moſt eſteemed. If this Obſervation be made in the choice of it, there will be no need to pluck up a Parterre every five or ſix Years on account of the Height to which the Box is grown, notwithſtanding the often clipping of it.

I HAVE not determined the Nature of the Soil proper for each kind of Trees, as moſt have who have written of Agriculture; for in general an Earth moderately good will agree with all of them, it is not here of ſo great conſequence as it is for Fruits, Pulſe and Flowers; however, I ſhall juſt mention what Trees are proper for each Ground. The Hornbeam and the Beech like a cool Soil; the Elm, Maple, Lime-Tree, Horſe-Cheſnut, Birch-Tree and Sycomore do beſt in a dry Ground; the Oak and Cheſnut-Tree in a ſtrong ſtiff Earth; and the Poplar, Aſh, Alder, Aſpen-Tree and Willow in moiſt wet places.

CHAP.

CHAP. II.

Of the Manner of Planting all the different Parts of a Fine Garden.

ALL that has been ſaid in the foregoing Chapters, would ſignify nothing, without the Addition of what is contained in this and the following Chapter; the Uſefulneſs and Neceſſity of which, are ſufficiently known to all the World. Were the Ground never ſo well dreſs'd, the Garden truly traced out, and the Trees never ſo well choſen, all would be to no purpoſe, if you were ignorant of the right Method of Planting, and of the Care that ſhould be taken of young Plants, to raiſe them as they require.

THE Buſineſs of raiſing Trees to a fine Stature in a little time, depends upon Two Things; good Planting, and the Care to be taken of them according to the different Seaſons of the Year. The firſt of theſe I ſhall treat of in this Chapter, and refer what I have to ſay of the latter to the Chapter that follows.

PLANTING differs according to the different Parts that compoſe a Garden; all which muſt be diſtinctly ſpoken to, in order to know how to plant them. I begin with Parterres.

A PARTERRE being traced out, as has been before deſcribed in the 2d Part, the Box choſen, according to the Obſervation in the foregoing Chapter; and the Ground well prepared, and dreſs'd; take a * Dibble, and a Spade, (which are the two Inſtruments the moſt made uſe of in Gardening) and after having trimmed the Roots of the Box, and cut away ſome of their Fibres, make a little Rill, or Trench, with the Dibble, or Setting-Stick, about half a Foot deep, keeping exactly in the Track of the Deſign; then take away the

* *A Setting-ſtick.*

Dibble, and widen the Inſide of the Trench a little, to receive the Box, which you are to place in Order, burying the Roots of it up to the Neck, that is, that nothing appear out of the Ground but the Leaves: After which, give two or three Strokes with the Setting-Stick, all about what you have juſt planted, to cloſe the Earth again, and fill up the little Cavities. The Box being thus put in the Ground, you range it either with the Back of the Setting-Stick, or your Hands, and give it the Shape and Turn it ought to have, according to the Deſign; ſettling the Earth well all about it, for fear the Air get in, and ſpoil it.

THE Dibble is thus to be made uſe of every where, except in great Lengths, and very large Edgings of Box, as the Sides of Borders, and the greater Branches of the Embroidery, which may be done with the Spade: In theſe you ſtrain a Line, according to the Draught, from one End to the other, and opening a Rill with the Spade, ſet your Box in it, and cover it afterwards with Earth, which makes much quicker Diſpatch than the Dibble.

THE Parterre being thus planted, you dig the Places deſigned for the Borders with the Spade, and fill them with Mold mixt with good Earth, which you lay rounding in the Middle like an Aſs's Back; and then ſpace out, and mark with Pegs the Places where the Yews and Shrubs muſt be planted purſuant to the Deſign, cauſing Holes to be dug for them according to their Size. I have already ſaid, in the 4th Chapter of the Firſt Part, that very large Yews and Shrubs are now out of uſe, becauſe they hinder the Proſpect; ſo that theſe Yews having at moſt but four or five Foot height, the Holes will be big enough, if open'd three Foot ſquare, and two Foot deep. Theſe Holes being made, cauſe a Yew to be brought to one End of the Border, and cutting its Basket, uncover the Clod, and trim the ſtraggling Roots that exceed it; then throw a little good Earth into the Bottom of the Hole, and ſet your Tree in the Middle of the Border, meaſuring it very exactly; ſecure it a little, by throwing in ſome Earth upon it till the Hole be half filled up, and plant another Yew at the other End; and having thus planted two, you ſpace out and range all the others by them.

IN

IN Borders the Yews are generally ſet at 12 Foot diſtance, with a Shrub between; but this Rule can't be follow'd where the Borders are cut, or where they are in Compartiment; you muſt then be governed by the Deſign, and confine yourſelf to certain ſtated Places.

YOU muſt obſerve, in Borders that are twiſting and circular, to plant the Yews in the Middle, at equal Diſtances one from another, and as upright as poſſible by your Eye, which is the ſureſt Method, having no Range to take, and the Line being of no ſervice. You will find in this Part the Flowers that are proper for them with their Culture.

THIS is all the Difficulty in Parterres, which muſt not be clipped till the ſecond Year after they are planted, that the Box may take Root, and gather Strength. You then reviſit your Parterre from one End to the other, and new furniſh with Box, the Places that require it. They make uſe of Shears for clipping the * Box of Parterres, which ſhould be cut cloſe without diſordering or varying from the Deſign: In and Borders ſtraight Edgings of Box, you may ſtrain a Line to clip them by.

THE moſt proper Time to trim a Parterre, is the Month of *May*; the fineſt Parterres are clipt twice a Year, immediately after the two Seaſons of the Riſe of the Sap. If the Ground be ſomewhat dry, you muſt water the Box well the firſt Year it is planted, in order to haſten its ſtriking Root.

THE Walks and Counter-Walks, that are to be planted with Elms, Lime-Trees, Horſe-Cheſnuts, *&c.* being drawn out, you drive Stakes at every † 12 Foot diſtance, to mark the Place of each Tree. This Diſtance is a Mean between the nine Foot from Tree to Tree, allowed by ſome, which is not enough, and the 15 or 18 Foot given by others, which is too much; the Diſtance of 12 Foot is reaſonable, and more in uſe than either of the others. In Avenues and Walks, planted in the open Fields, the Trees may be ſet at the diſtance of 18 or 24 Foot, for the better Husbandry of the Ground, in which they are planted. Thus you have the Advantage above and below. Theſe Trees ſhould be ſecured by Thorns, or the like, from being injured by Cattle or miſchievous People.

* *Good Gardeners in their clipping oftentimes mend the Drawing of a Parterre, by forbearing ſome Places, and cutting others cloſe, in the turning of a Branch, &c. on the contrary, thoſe that are Bunglers quite lame a Deſign.*

† *12 French Foot make near 13 Engliſh Foot.*

When you dig the Holes, lay the Earth that is firſt dug out, apart from the lowermoſt, and in planting the Trees cover them with the firſt which is the beſt; the other ſerves to fill up, and by this Shifting you mend the Ground.

AT each of theſe Stakes cauſe Holes to be dug of four Foot ſquare and three Foot deep. If the Bottom of Earth be good, you may make uſe of it; but if it look exhauſted and dry, you muſt bring in better, or take ſome of the upper Mold, and throw in ſix or ſeven Inches Depth of it into the Bottom of the Hole. You may lay a Bed of Leaves or Graſs, if you have it at hand, with half a Foot of Mold at top of it, which will waſte and be as good as Dung in time. This Preparation fills up one Foot of the three Foot depth you made your Holes. The other two are enough for planting the Tree.

BEFORE you plant your Trees, they ſhould be cut to eight or nine Foot height, by taking off their Heads, unleſs they are raiſed in Baskets, as ſhall be mention'd by and by.

FOR Regularity you ſhould endeavour to plant all your Trees of the ſame Height, cutting them by one common Meaſure. Then their Roots ſhould be trimmed, by cutting away the Extremities of the Fibres, and their broken and bruiſed Roots, which the *French* call * Dreſſing a Tree. This done, you ſet the Root of the Tree in the Middle of the Hole, ſpreading out all the ſmall Roots, and filling in the Earth about them with your Hand, taking care that no Stones or hollow Places be left towards the Bottom, which would expoſe the Roots to the Air, and hinder their taking to the Ground. Your Tree being well ſecured, let the Earth be entirely filled in lowering the Bank about the Hole, and then ſettle it down by treading on it.

* Habiller un Arbre.

BESIDES the Stakes which mark out the Holes, there ſhould be three or four Ranging Staves fixed upon the ſame Line, between the places deſigned for the Trees, that when the Holes are made, and the Stakes removed, you may be able to plant two or three Trees by the Staves; that is, one Tree at each End, and one in the middle of the Line, after which the ranging Staves may be taken away as uſeleſs. Theſe three Trees will ſerve you for ſetting all the others upon the ſame Range. This is a general Rule for planting all Sorts of Trees, enlarging or leſſening the Size of the Holes according to the Strength of your Plants.

AFTER having ſettled the Earth about your new planted Trees, you ſhould the next day after, beſtow three or four Watering-

Watering-Pots of Water on them, as their Size ſhall require; this wonderfully ſinks the Ground, and makes it bind together: It would be dangerous to water them immediately, for fear of making Mortar of the Mold, or making their Heads lean too much on one ſide.

THOSE who deſire to have a fine Garden in little Time, though it coſt them ſomething more, make uſe of Trees raiſed with their Clod or Earth about them, by which they gain five or ſix Years Growth; becauſe theſe Trees being raiſed with a Body of Earth that covers their Roots, are planted at their full Height, without cutting; whereas other Trees, whoſe Roots are bare, not having Strength enough to nouriſh their Head, muſt neceſſarily be taken off to eight or nine Foot Height, as was juſt now mention'd. From whence 'tis evident, that a Gentleman, by planting Trees in their Clod, gains the Time thoſe Trees neceſſarily require to make another Head; beſides that they are infinitely more beautiful, not diſcovering their Removal, as thoſe do that have been headed. I have planted Elms in their Clod 30 Foot high, and as big as one's Thigh, which have taken again to a Wonder; by this Expedient you plant Trees at their full Bigneſs, which was never done heretofore, and enjoy a Garden ten Years the ſooner, by means of this admirable Contrivance.

GREAT Care ſhould be taken how you follow the Advice of ſome * Gardeners, who pretend that you may plant a Tree boldly at its full Height without cutting off any thing, though it have no Clod about its Root. Theſe Men, to ſupport their Opinion, affirm, that this Body of Earth binding up the Roots too much, which you are obliged to cut ſhort, hinders them from doing their Office, and ſtriking ſo vigorouſly as they would do; whereas, ſay they, when the Roots of Trees are uncover'd and at their full Length, they are placed in Order, and filled up with Earth much better; beſides that being thus at liberty on all ſides, they more eaſily ſhoot and faſten themſelves in the Ground.

THIS is an Opinion that Experience has often found to be falſe, and which I adviſe you by no means to follow; for when Trees have no Earth about their Foot, or that the Clod is broke in carrying of them, they are in great danger of

* *Theſe Gardeners have written of Fruit-Trees, of which having had ſome Experience, under that Pretext they expect to be credited in the Buſineſs of tranſplanting Elms, and other Trees belonging to Pleaſure-Gardens, the Culture of which is in a manner unknown to them.*

of dying, the Sap of itſelf not having Force enought to riſe to the Top of the Tree, and to nouriſh its Head, unleſs aſſiſted by this Clod of Earth, which is that in which the Tree was raiſed, and which nouriſhes and maintains its Roots, till they have Strength enough to pierce the new Ground that is about them. In the 4th Chapter following, I ſhall deſcribe the Manner of raiſing Trees in their Clod.

FOR planting Paliſade-Hedges, you are to ſtrain a Line according to the Draught traced out, or to the Row of Trees, if there be any, and, with the Spade, open a Trench or Rill a Foot deep, taking care to preſerve one of its Sides from ſlipping down, and to open the Trench upon the Inſide of the Walk, which is always beſt for the Plants. This done, kneeling down with your Left Knee upon the Edge of the Trench, take the Plants one by one, after having trimmed the Extremities of the Roots a little, and ſet them two or three Inches aſunder, according to their Size, holding the Plant againſt the Ground, which, upon one Side of the Trench, ſhould be cut perpendicular; and keeping it there with the Back of your Left Hand, throw in the Earth about the Roots with your Right-Hand, till they are quite cover'd. Take care that the Plants be ſet right, and well adjuſted one with another; after which, fill up the Trench entirely, and tread the Ground with your Feet, to ſettle it.

HEDGES that are planted ſo large, as ſix or ſeven Foot high, are not ſo ſure of taking Root, as the young Horn-beam, which I eſteem infinitely the better: But there is an ill Cuſtom amongſt Gardeners, which is to cut the Horn-beam to the Level of the Ground, which is very injurious to it, and hinders its growing upright, making no more than a Parcel of Stubs, ſpringing out of one Side and the other. I made the Experiment of a Hedge of Horn-beam cut in this Manner, and of another which I let grow its whole Height; and I found that the Hedge which had not been cut, came up much better and more upright than the other, though in the ſame Ground.

A SMALL Space ſhould be left behind the Hedges that are planted againſt a Wall, partly for the Hedge it ſelf, that you may come to dig behind, and clip the Back of it; and partly for the Wall, which by this means is preſerved much better and longer.

As

As there is nothing more difficult to bring forward in a Garden than Hedges, they require much more Application than the other parts. To raiſe them well and preſerve them for any time, they ought to be ſet out of a Wood in the open Air, and have no Trees planted in the Line of them, eſpecially Elms; unleſs the Hedge be kept cut to 10 or 12 Foot high, and the Trees above be lopped very cloſe. If, on the contrary, they are planted in a Wood of high Trees, or under Horſe-Cheſnuts, they will ſoon die, nor can they be raiſed there unleſs it be while the Trees are very young, or by the Benefit of a good freſh Ground. You may nevertheleſs raiſe fine Hedges in a Wood by obſerving the following Rules.

The uſual Method in planting a Wood is to edge the Walks with Elms, Lime-Trees, Horſe-Cheſnuts, *&c.* with Horn-beam or Maple at the foot of them to form the Hedge: Nevertheleſs, if you would not undergo the infallible Vexation of ſeeing them die away in ten or a dozen Years, by reaſon of their being ſtifled under the great Trees, you may remedy this Evil by planting the Borders of a Wood with Horn-beam only without any other Tree, leaving behind a Liſt of 7 or 8 Foot wide all about it, that is to ſay a clear Glade, having neither tall Trees nor Under-wood between the Hedges and the Wood. By this means they have the free Air on both ſides, and may be kept in good condition a long time; this takes away nothing of the Beauty of the Wood, which riſing above it, makes at a diſtance a very agreeable Verdure by its Leaves and Branches. This void Space leaves convenient room for digging about the Hedges, and for carrying the double Ladder for clipping them on the backſide. You ſhould obſerve that all the Branches of the Wood ſhould be kept cut perpendicularly from their Foot, leſt by over-hanging and dripping upon it they rob this Space of the Air ſo neceſſary to the Preſervation of the Hedge.

It muſt be owned however, that theſe Sorts of Walks are longer in forming, and affording Shade than the others where the Trees begin to ſhew themſelves from the ſecond Year: In a large Garden you may have Walks planted both one way and the other, that you may be able to walk in the Shade at all Hours of the Day.

ANOTHER very plain way of planting the Walks of a Wood is this: let the Rows of Trees on each ſide ſtand detached, and 3 or 4 Foot behind them plant the Under-wood or Thicket of the Squares of Wood in a Line; ſo that being kept clipt upright, it may form a kind of Paliſade-Hedge. This indeed is never ſo fine nor ſo well filled as the others, but it will laſt much longer, and require but little coſt to keep. This ſort of Hedges makes always an even green Ground, which cannot fail of being very agreeable to the Eye.

WE now come to the manner of planting Porticos, and other Decorations in green, as Columns, Peers, Jambs, Pilaſters, *&c.* Having picked out of your Nurſery ſuch Elms as are tall and ſlender, well filled with Branches along their Stem, and always thoſe that we call the Males becauſe their Leaves are thicker and more tufted, and clip much better than the Female, plant them with all their Boughs, and without cutting any thing off at the Head; if it be for a Peer that is ſomewhat broad, you muſt put in ſeveral; and if it be for a Column, look out a Tree that is full of Branches all round, which you muſt conduct and cut to anſwer the Intention of a Column, making it to ſhoot out on all Sides, and dexterouſly applying all its Branches to form the Roundneſs required. It ſhould be ſtript clean for 3 or 4 Foot in Height, that it may riſe the better; and the lower part may be filled with Horn-beam and Elms to make the Baſe and Plinth. The Capital at the Head of the Column may be formed out of the ſame Tree, and for the Cornice and Entablement; you may make uſe of the Branches put out by the Hedge on the Back-ſide, which you may draw with Wire, and faſten to the Poles which run acroſs from one end to the other, that are ſupported by other Poles or upright Pieces, to which are fixed all the little Branches of Elm deſigned to form the Peer or Column, by confining them with Twigs of Ozier to take what Side you pleaſe. Theſe Branches artfully drawn and interwoven one with another, quite hide and cover the Poles and compoſe Collonades of green, with their Cornices and Entablements, advancing a Foot or more if it be neceſſary.

THESE Columns are planted almoſt always inſular, that you may come to clip them all round; for the Pedeſtals, they may be inſular or not, it ſignifies nothing to their Conſtruction.

The

The Capitals, Baſes and Cornices are cut in chamfer or cant at the Extremitys of the Columns or Pilaſters, at top of which are made Balls and Vaſes of green, formed by the tufted head of the Tree which makes the Column or Peer, or elſe by the Shoots and Twigs of Horn-beam drawn from the Hedge or Paliſade behind. Theſe Vaſes are kept detached from their Balls and from the Cornice by a ſmall Stem of a Foot or two, according to the Height of the Portico, for the better Effect of the Perſpective.

Architects obſerve the ſame Rule in Buildings.

FOR Hedges cut into Arcades, if the Arches are open down to the Bottom, in the Deſign, draw a Line upon the Ground, and taking upon it the Breadths of the Openings, mark out thoſe of the Peers or Pilaſters which are to be opened in Trenches for planting the Deſign intended. If on the contrary they are incloſed in a low Hedge on which they terminate, that is, that they do not go down to the Ground, unleſs in the Door-ways; you then make a Trench the whole length without reſerve, and plant the Horn-beam in it, obſerving for the quicker advance to put the higheſt in the place of the Peers, or elſe to plant there a Lime-Tree or an Elm for the more ſpeedy forming the Cornice and Vaſe at top, which are always longeſt coming on. Theſe young Plants ſhould be ſupported with ſome rough Lattice-work, upon which the Branches may be readily faſtened, till they are high enough for their Center, and fit to form the Arch about a Hoop fixed to the two Jambs of the ſaid Trellis.

ARBORS, Cabinets, and green Galleries are planted in the ſame manner as Porticos and Arcades, with this difference only, that there muſt be two Rows of Porticos with 4 Pillars to make theſe Galleries; then the Elms planted at the 4 Pillars croſs each other upon Hoops over head, and by their Boughs drawn with Wire, and confined upon the Hoops, form very agreeable green Vaults, which are open at top.

THESE Arcades, Columns, Porticos, and Cabinets are almoſt all clipt with the Sheers except the Cornices and Peers, which are cut with the Pruning-hook, where you conduct the Branches to fill up the Vacancys: You ſhould have a Templet or Pattern of Wood to guide you in forming the Columns, one for the circular part, and another for the Chamfering of the Cornices, Baſes and Capitals; which Templets

ſhould be cut according to the Deſign propoſed in their firſt Conſtruction. Theſe Pieces, when once grown to ſome ſtrength, will ſtand ſufficiently of themſelves, without the help of Lattice-work; which is of no uſe but to raiſe them, and bring them up.

OBSERVE that if you make uſe of nothing but large Hornbeam to form theſe Decorations without a Tree, you ought to plant it very cloſe and well furniſhed, to prevent its growing too big. If you plant Trees, you ſhould not bend them till after the ſecond or third Year, when they have taken well to the Ground; otherwiſe you may too much diſturb and ſhake their Roots, and hinder their ſtriking into the Earth.

FOR Balls of Elm in the manner of Orange-Trees, you are to chuſe ſuch Trees as are very ſtrait with a Stem of ſix or ſeven Foot high, and cut the head of them into Balls of about 3 Foot in Diameter. If theſe Balls of Elm are to be accompanied with a Caſe at Bottom, you plant at the Foot of the Trees ſome Shoots of Horn-beam which may be clipt ſquare on every Side, or be ſhaped like Pots with Handles to them, to make the Caſe and Tree look both as one.

YOU muſt take great Care of putting Dung into the Holes where you intend to plant your Trees, under the pretence of dunging them, for if you lay the Dung too low, it is uſeleſs, by reaſon the Salt of it can't affect the Roots; and if you put it towards the Top, it will rot the Stem of the Tree, breed Worms, and dry up the Ground, all which are but too apt to bring a Mortality upon young Plants. You ſhould put nothing therefore into theſe Holes but good freſh Earth: or elſe a Bed of Leaves, or Graſs as above-mentioned. And to keep the new planted Trees from the great Heats in Summer, you may ſpread, upon the Surface of the Ground about the Foot of them, ſix or ſeven Inches Thickneſs of half-rotten Dung, becauſe 'tis then fuller of Salts and vegetable Spirits, which the Rain and Waterings will ſoak and carry down to the Roots of the Trees.

IF you have Holes and Trenches to dig in made Ground, or that which is ſandy and bad in itſelf, whether for planting Hedges or Rows of Trees, you muſt then make Trenches clear from one End to the other, of four Foot wide and three Foot deep, and bring in good Earth to fill them up with;

with; in which you may boldly plant your Trees, that would otherwiſe do nothing but languiſh and die away.

As to what relates to Woods and Groves, they are diſtinguiſhed into ſix Sorts, as has been before mention'd in the ſixth Chapter of the firſt Part; namely, Foreſt-Woods Coppices, Groves of a middling Height with tall Hedges, Groves open and in Compartiment, Woods planted in Quincunce, and Woods of Ever-Greens. I ſhall ſpeak of all theſe one after another, and diſtinguiſh the ſeveral Ways of planting them.

Forests and great Woods of high Trees, are ordinarily ſown with various Seeds and Fruits. 'Tis ſufficient to give the Ground deſigned for theſe one Ploughing, and then to ſow your Acorns, Cheſnuts, *&c.* as you do Corn; or elſe you may ſet your Acorns into the Ground at every ſix Foot diſtance, in Rills made by the Line with a Mattock, which does it very quick, and makes the Trees appear, in time, at regular Diſtances.

The beſt way of planting Woods, is to do it with rooted Plants, ſetting them at ſix Foot diſtance one from another, and obſerving, above all, not to cut their Heads, for that would hinder their growing and ſhooting up one Day to a lofty Stature.

Coppice-Woods are planted or ſown in the ſame manner as Foreſt-Woods, but with theſe two Differences, that the Plants are ſpaced out, or the Fruit ſet at three Foot Diſtances, and that the Heads of the young Plants are to be cut to make them put out Branches, and ſpread themſelves to a buſhy Tuft. Coppices generally ſhould be cut at every nine Years, and taken down to the old Stumps, which ſhoot again immediately.

The Groves of a middling Height, with tall Hedges, require more Care in the Manner of planting them. After you have dug the Ground, meliorated it in caſe of Need, and drawn exactly the Deſign of the Wood, you plant the Walks, Halls, Cabinets, *&c.* in the ſame Manner as was juſt now taught in this Chapter, ſpeaking of Walks. So likewiſe you plant the Paliſades, following exactly the Out-Lines and Returns of the Deſign, and opening little Trenches, as was mention'd above. To fill up the Middle of the

Wood,

Wood, which is the Buſineſs now to be ſpoken to, mark out Lines with the Cord at ſix Foot diſtance one from another, and open them in Trenches a Spit deep, and about the ſame Breadth, in which plant your Elms, Cheſnuts, *&c.* three Foot aſunder; and between each Trench, after the Plant is ſet, and entirely recover'd, ſow or ſet Acorns, Cheſnuts, and all Sorts of Seed, to make your Thicket and Bruſh-Wood; and the Rows of rooted Plants will in time form the Head of the Grove, if Care be taken to trim their Branches, and conduct them to their proper Height.

YOU ſhould obſerve in order to furniſh your Wood the faſter, and that you may ſooner have the Pleaſure of it, to ſet a Plant ſomewhat ſtronger than ordinary in the Squares, and to bury the long Branches that trail along the Ground for Layers, inſtead of cutting them off, which will furniſh the Wood much ſooner and better than ſowing the Seed, as you do in planting great Woods and Coppices.

GROVES that are open, and in Compartiments, are very different from tall Woods and Coppices, in that the Middles of their Squares have no Wood in them, but are filled with Green-Plots in Compartiments, which are to be ſown or laid with Turf, according to what is intended in the Deſign, and as has been already ſpoken to in the ſeventh Chapter of the firſt Part. As to the Walks and Hedges of theſe Woods, they are always planted Breaſt-high in Banquettes, as before mentioned, becauſe of the View.

QUINCUNCES are planted as Walks, being in effect no other than ſeveral Rows of Trees, and many parallel Walks, ranging and anſwering the Lines of one another: you are only to take Care, in planting theſe Woods, to raiſe your Squares very exactly, and to ſet your Trees ſtrait, ſo as to keep a Line from Corner to Corner, and anſwer one another directly, which is the great Beauty of them. There needs no Hedges nor Thickets in theſe Woods, ſo that they are very eaſy to plant. Sometimes Graſs-plots are ſown under the Trees, keeping ſome rolled Walks, as Occaſion requires.

WOODS of Ever-Greens are planted in the ſame manner as the others, there being no more Difficulty in them: You may have Recourſe to the foregoing Chapter, for chooſing the

the Trees moſt proper to plant the Walks, Hedges, and Squares of theſe Woods.

As there is nothing longer a growing than a Wood, you ſhould conſult the Ground where you would plant it, examiningthe natural Bottom of the Earth by digging the ſeveral Places, and obſerving the Graſs that covers it. If the Ground be moiſt, and cover'd with Reeds and Ruſhes, plant in it thoſe Trees that love the Water; if it be dry, the Trees we call Wild will ſuit it better: for what will pleaſe the natural Soil, ſhould always be regarded, otherwiſe the Wood will be a long time in coming up.

By this you ſee the Difference there is between Woods and Parterres, and Bowling-greens, which are finer from the firſt Day they are planted, than afterwards; whereas a Wood in its younger Age has nothing in it perfect, being deſtitute of that Shade which yields ſo much Pleaſure in Gardens, and which conſtantly makes one wiſh it ſomewhat older.

When you have old decayed Woods to new-furniſh either in their Squares, or in their Outſides and Borders planted with Trees and Hedges, there is much more trouble to make any thing grow than in a young Plantation; for Trees are very apt to die under thoſe that over-hang them, tho' you chuſe ſuch as are of the leaſt delicate kind; you can raiſe nothing but Thickets of Lilach, Elder, Sycamore, Box, and young Elm: and if you will by all means plant ſome Trees, you muſt open every thing perpendicular over head to give them Air, without which the Trees will become grubby, and die away under the Cover. The Ground that has abundance of Roots in it, and is quite worn out, is alſo the moſt improper for young Plants to take in. In ſuch caſe, care ſhould be taken to make Holes for them ſomewhat large and deep, carrying out the bad Earth, and filling them up again with the beſt new freſh Mold you can get. Theſe Trees ſhould be marked with a Band of Straw, or Ozier Twigs, that they may be diſtinguiſhed from others, and that care may be taken of them in the Summer. In making the Holes you ſhould be careful not to hurt the large Roots of the neighbouring Trees, which would kill them, and be the Means of deſtroying your Wood the faſter.

As to the Time of planting Trees, it is better, in general, to undertake it before Winter, in the Months of *November* or *December*, than in the Beginning of Spring, as in the Month of *March*; the Trees and their Roots having time, during the Winter, to inure themſelves to the Ground, and to taſte it before the Sap riſes; beſides that the Rain and melted Snows ſoak and moiſten the Roots, and bind them faſter to the Ground. Trees that are planted when Winter is over, have not all thoſe Advantages, for being moved and tranſplanted too near the Time of the Riſe of the Sap, they with more difficulty betake themſelves to the new Ground, and are longer before they ſtrike Root in it.

YOU may obſerve, that in dry Grounds eſpecially, 'tis better to plant before Winter, that the new-planted Trees may have the advantage of the Rains, and Melting of the Snow, which they are in mighty want of to allay their natural Drought. They ſhould alſo be planted not deep, leſt the Water, whether from the Rain or Watering-pot, ſhould be drank up by the Earth before it can reach the Roots; whereas in moiſt Places you may ſtay till the Month of *March*, when the Earth being diſcharged of the Glut of the Winter's Wet, will be more proper for the young Plants to take Root in.

Chantilly, Liancourt.

In marſhy Lands they raiſe the Flood-Gates of the Canals and Ponds before they can plant, without which, the Holes for the Trees would be full of Water, and then ſet them at ſuch depth as the Level of the Water will permit.

YOU ſhould always chuſe a dry Time for Planting, becauſe the Earth being dry, inſinuates itſelf better about the Roots, without leaving any Vacancy, and is not made Mortar of, which is very prejudicial to the Trees taking Root.

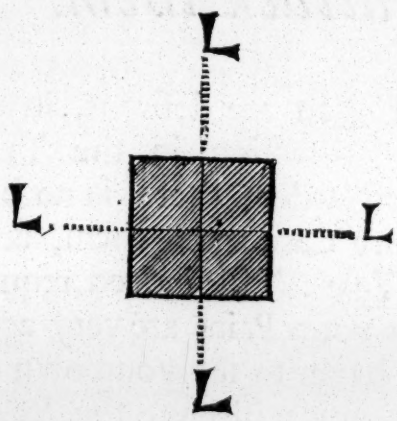
SOME Perſons pretend, that this Obſervation ſhould be made in planting a Tree, to turn it to the ſame Expoſition of the Sun, as it was in before tranſplanting: This at moſt can ſignify nothing, unleſs for Fruit-Trees; and I look upon it as one of thoſe Niceties you ought never to inſiſt upon, being, in my Opinion, very uſeleſs and frivolous.

WHEN you ſometimes meet with a Tree whoſe Stem has a little Crook or Elbow in it, you may, in planting it, obſerve to turn the Elbow oppoſite to the Sun's Place at Noon, which

which by this means will be drawn towards it, and rectified; but unleſs it be in this Caſe, you ſhould always turn a Tree that way which will appear the ſtraiteſt in the Line it ſtands in.

THERE may happen another Difficulty proper to be reſolved, which conſiſts in this: When a Deſign is traced out, eſpecially that of a Wood where there are turning Walks, the Trees of which cannot be ranged one by another; you have a great deal of Trouble, after the Hole is made, and the Stake taken away, to plant a Tree without any Line of Range or Meaſure to direct you.

AS an Expedient to rid you of this Trouble, before you dig the Hole, and take away the Stake, ſet four others that ſhall range acroſs the Stake which is to be removed, as you ſee in this Figure. You ſhould take care to plant theſe Stakes a little way off the Place where the Hole is to be made, that the Earth may be thrown out without covering them. By this means you may find the Place of your Tree again, ſetting it directly in the Middle of the Hole, ſo that the four Stakes range acroſs and center upon the Tree, as they did upon the Stake you took away.



I THINK this is all that needs to be ſaid touching the Manner of planting the ſeveral Parts of a Garden. Let us now proceed to the Care that ſhould be taken of young Plants, in order to raiſe them well.

CHAP. III.

Of the Care that ſhould be taken of young Plants to raiſe them well, with the Means of keeping them from the Diſtempers and Inſects that uſually attack them.

IF you are deſirous, in a little while, to take Pleaſure and Satisfaction in the Trees wherewith you have planted your Garden, there is no better Way than to beſtow all neceſſary Care upon them, according to the different Seaſons of the Year: This indeed requires a great deal of Attention, but then your Pains are very agreeably requited, by the Delight you have to ſee your own Work advance apace. Without this, you will have the Vexation to ſee moſt of the Trees in the Garden die and pine away, beſides the conſiderable Charge you muſt be at to replant every Year, without ever being able to enjoy any thing.

THE Care that ought to be taken of young Plants, conſiſts in three Things; in the Tillage, Waterings, and Method of managing them during the firſt two or three Years.

THE moſt neceſſary of all theſe is the Tillage, which muſt be done four times a Year, two greater, and two leſſer, which the *French* call *Binages*, or Turnings up of the Ground a ſecond time. The firſt great Tillage is perform'd at the Entrance of the Winter, the ſecond at the Beginning of Spring. The two leſſer are done, one at Midſummer, and the other in the Month of *Auguſt*.

THE Reaſon of theſe different Tillings, and the different Times of performing them, is that at the Entrance of Winter, the Sap being over, there is no Danger in giving

the Trees a good Tillage, that is to ſay, in breaking up the Ground pretty deep; for beſides that it deſtroys the Mole-Tracks and Roots of Weeds, it renders it more eaſy for the Rains and Snow to enter, that fall in this Seaſon, and ſoak the Ground very deep: This is the firſt Tillage. As to the ſecond, which is done in the Beginning of the Spring, as in the Month of *March*, you run no hazard in turning up the Earth ſome Depth at that Time, when it does not exert itſelf ſo vigorouſly, and is in no fear of the great Heats as yet.

THE two leſſer Tillings, or ſecond Turnings up of the Ground, ſhould not be ſo deep as the others, becauſe they are performed while the Sap is moving, when there might be Danger in Digging the Earth too deep, either by giving Vent to the Roots, or by cutting off their Fibres. In theſe Kinds of Tillage you need only juſt pare and rake the Surface of the Ground, leſt the Heat ſtrike to the very Roots, and no deeper than to kill the Weeds, which in this Seaſon ſhoot up in abundance; as alſo to make it penetrable to the Morning Dews and Rains, which very much facilitate the Riſe of the Sap.

'TIS a uſual Saying, that a Wood to be looked after well ſhould be kept like a Vineyard, where no Weeds are ever ſuffered.

TREES that are inſulate or detached, that is to ſay, that are not ſet in a Hedge, a Wood, or a Border, but ſo as you may walk round about them, ſhould be dug four Foot ſquare, and Hedges two Foot wide on the Back-Part, the raked Walk anſwering the Purpoſe of digging on the Fore-ſide.

IN the greater Tillings, Mattocks and Spades are made uſe of; and in the leſſer, Houghs, Edging-Irons, and Weeding-Hooks: When the Weeds are too big, you pluck them up by the Roots with your Hands, before you turn up the Ground, which is called *Weeding*.

TO perform this Culture uſefully, and to the Purpoſe, the natural Quality of the Ground ſhould be conſulted; for that which would be a very proper Time to till light and dry Ground in, would be no-wiſe fit for ſtrong and moiſt Earths. Thus as light and dry Earths want Moiſture to correct their too great Heat, they ſhould be opened a little be-

ſore it rains, or preſently after, to gain an eaſy Admittance to the Water, that would be loſt elſewhere by too much Delay. On the contrary, ſtrong and moiſt Grounds are to be turned up in the very hotteſt Weather, which they are in more want of than Water, and which hinders them alſo from chapping and cleaving. Theſe Tillings performed in this manner, and with theſe Obſervations, keep the Ground much longer cool, and make it infinitely better for the Plants.

WATERINGS make the ſecond Care that ſhould be taken of young Plants; theſe, as well as Tillage, helping to diſſolve and actuate the Salts of the Earth, which would otherwiſe remain in a Lump; and if, as was mention'd before in the ſecond Chapter of the firſt Part, Water be neceſſary in a Garden, 'tis undoubtedly ſo for theſe young Things, which would periſh and conſume away without the help of it. Waterings ought to be frequent and plentiful; for when ſmall, they only ſerve to make the Ground dryer, as a Drop of Water thrown into a great Fire does but irritate the Flame the more.

THE moſt proper Time for Watering, is Morning and Evening; in the Heat of the Day you ſhould water nothing but in Woods and ſhady Places.

YOU ſhould always obſerve one Thing before Watering, which is, to cover the Foot of Trees and Paliſades with long Dung and Litter, and to ſpread it upon the Surface of the Ground, as has been already mention'd. Your Waterings are much better when the Water runs through this Dung as through a Sieve, it then makes no Mortar, and cauſes the Earth to keep its Freſhneſs much longer, being cover'd by the Dung from the ſcorching Rays of the Sun.

AND becauſe Dung would be an ugly Sight in a fine Walk, you may bury it juſt within the Ground, and gravel the Walk over it, which will look decent, and be of the ſame Uſe to the Tree.

FOR Places near at hand, Gardeners make uſe of Watering-Pots; but when the Water muſt be carried ſome Diſtance off, they fill ſmall Veſſels or Quarter-Casks, and drive them in Wheelbarrows to the Places required; each Tree ſhould have about two Watering-Pots, or two Pails full of Water,

as

as you find the Ground more or leſs thirſty, which you may know by its cleaving aſunder, and drinking up the Water ſpeedily. You may make a hollow Circle, or little Baſon, at the Foot of the Tree, to ſerve as a Tunnel for the Water which would otherwiſe run aſide.

You may alſo make uſe of long Wooden Troughs, or Gutter-ſtones cemented together, to convey the Water from a Baſon or Well, along a Walk, and have Veſſels ſet in the Ground, at proper Diſtances, to receive the Water, from whence it may be taken as Need requires; but this is hardly allowable in a Garden, unleſs it be a Kitchen-Ground.

As for Hedges and Rows of young Trees in a Wood, you muſt give them as much Water as they need, hollowing out before-hand a ſmall Gutter the whole Length, to facilitate the Running of the Water.

The third Care is to guide and prune the young Plants well, which requires no more Skill than to diſtinguiſh in a Tree that has many Branches which render it deformed that which ought to be left, to produce, in time, the handſomeſt and the ſtraiteſt Tree.

It may be held for a general Rule, that a Foreſt-Tree, to be beautiful, ſhould have no more than one upright leading Shoot, which ſhould be very high in the Stem, as from 20 to 30 Foot, without any forked Arms or Branches; after which, it may be left to form its Head at pleaſure. On the contrary, when the Trunk of a Tree is too low, the Forks of it are very diſagreeable to the Sight, as well as when the Tree has more than one upright Stem; for then it looks like an Apple-Tree, or like a *Chriſtmas*-Candleſtick twiſted into ſeven Branches.

Such are the Horſe-Cheſnuts in the great Walk of the Tuilleries, *which have almoſt all this Defect.*

If the Trees you would manage are headed Trees, you ſhould pick them the firſt Year, taking off with your Hand all the little Buds along the Stem, that the Sap may riſe and reunite itſelf entirely above, to form the new Head. The ſecond Year of their putting out, you ſhould chooſe out of all the Branches, that which is the ſtrongeſt and moſt erect with the Foot of the Tree; that is to ſay, which falls moſt perpendicularly upon it, and cut off all the others without reſerve.

IF you find yourſelf puzzled in the Choice of this Branch, and that there is never a one very upright upon the Tree, you may let two of them ſtand to the Year following, and then cut off the leaſt. It ſometimes happens, that you are obliged to leave three Branches upon a Tree, when the middle Shoot, which ſhould be left as moſt upright with the Stem, is found to be the weakeſt of all, and oftentimes to lean of one Side a little. You then lay a Stick acroſs theſe Branches, to confine and keep the middle one in its Place, and peel off the Bark about two Inches broad all round them, at the Place where they ſhoot from the Stock or Bole; this ſtops the Sap, which by this means is convey'd only to the middle Branch. The two other Branches ſhortly die away; and when the middle one is able to ſuſtain itſelf, you cut them off entirely: So that of the three Branches that were left at firſt, there remains only one, very ſtrait and upright.

THE Reaſon why you ſhould leave no more than one Branch to a Tree, is, that it ſhoots the better, becomes larger and handſomer, and grows the faſter; thi s Branch having all the Nouriſhment and Sap to itſelf: Whereas when four or five Branches are left upon the ſame Tree, the Nouriſhment is divided into ſo many Parts, that the Shoots are weaker, and leſs vigorous. I have order'd, in this Manner, ſome topped Elms, that in five or ſix Years time have form'd a handſome ſtrait Head, of 15 or 20 Foot high.

WHEN you plant Trees without cutting off their Head, as thoſe that are in their Clod, you leave only a little Bunch at top, that the Tree having few Branches to ſupply, the Root may the better nouriſh its Head.

Theſe Poles are faſtened to the Trees with Ozier-Twigs, or Wire, which is better; putting between the Pole and the Tree, Hay, Wood-ſhavings or Leather, ſo fitted, that the Wire may not gall or hurt the Tree.

THE beſt way to raiſe and keep Walks of Trees well, is by no means to ſpare two Things: The firſt, is to ſet Poles to each Tree, and bind them together with Oziers, which helps to ſecure them againſt the violent Shocks of Wind, and to carry them up ſtrait and tall; without this, the Trees are ſubject to be blown down, and their Heads grow crooked, and are very liable to be broke by the Winds. The ſecond, is to make a coarſe Lattice-work of ſmall Rods, tied together with Oziers, to ſuſtain and raiſe the Hedges to ſome Strength, which, without this Help, never ſtand upright

and

and well upon their Feet; this is ſome Charge indeed, but it is abſolutely indiſpenſable.

FOR the ſetting old Trees to rights which are over-ſet, or are crooked, and which many People cut down for the ugly Figure they make in a Garden, there is an expedient found; which is to draw them ſideways with a Pully and Cords till they are upright, and then confine and fix them to other neighbouring Trees that ſtand moſt conveniently to keep them in this State, with large Iron-Wire: Leather ſhould be put under the Loops of the Wire, leſt it take off the Bark and cut the Tree. If the Tree has ſo conſiderable a Crook that it cannot be reduced by the Pully, you may ſet a piece of Wood as a ſhore butting directly againſt it, with a piece of Leather between the Tree and the Shore, which may be nailed with large Nails to keep it from ſliding. This piece ſhould continue thus during the Riſe of the Sap, which by its nouriſhing Juice renders a Tree more capable at that time than any other, to take the new Impreſſion one would give it, and together with this the Pully may alſo be made uſe of to bring the Head of the Tree to an Upright with its Foot, and to keep it there with Iron-Wire as before mentioned. When they are but young ſtrait Trees that only lean aſide, you may drive Stakes to the Level of the Ground to force their Roots, after you have brought them to rights with Cords. There are ſome Trees ſo very old and deformed, that it's almoſt impoſſible to redreſs them: in ſuch caſe therefore it is better to cut them down and plant others in their room.

YOUNG Hedges ſhould be taken in the ſecond Year of their ſhoot, after you have new-furniſhed the Gaps, very cloſe on both Sides, that is to ſay, behind and before, clipping them with Shears, which is the way to make them riſe and grow upright. You muſt never touch a riſing Shoot, by cutting its Head to bring it to the ſame Height with the reſt. For this hinders their putting out ſo ſtrait and ſo quick, beſides that 'tis no Deformity to a young Plantation to ſee it higher in one place than another. I am very ſenſible I ſhall have a great many Gardeners againſt me in this Point, who will never leave their old way of cutting and butchering Trees perpetually; but I am perſuaded, Men of Senſe will be rather of my Opinion, than theirs, which is founded only upon an ancient and evil Cuſtom.

Gardeners are ſo accuſtomed to cutting, that 'tis proverbially ſaid among them, they would cut off the Head of their Father were he a Tree.

IT

IT is not proper to cut the Head of a young Paliſade, unleſs you intend to make it a Hedge Breaſt-high, or when the Paliſade is grown up to the Height of 20 or 30 Foot; then cutting it at top to one Height prevents its becoming unfurniſh'd at Foot, and renders it more regular and beautiful.

TO keep Hedges in good order, they ſhould never be ſuffered to grow ſo high leſt they be unfurniſhed. They ſhould be cut and kept very cloſe with the Pruning-Hook by means of great double Ladders and rowling Carriages, as well at top, as on the two ſides, and always the ſhorter and cloſer the better, there being nothing uglier than to ſee a thick Hedge, beſides that it proves its Ruin in ſhort time. In Gardens that are well looked after they cut their Hedges twice a Year, in *June* and in the Beginning of *September*, after the Motion of the Sap; but commonly they are cut but once a Year, and that in the Month of *July* between the two Seaſons of the Sap's riſing.

THE Shrubs of Parterres, as Yews, Hollys, Roſe-Trees, Hony-ſuckles, *&c.* ſhould be dug about and water'd from time to time. They are molded into Balls and other Figures, by clipping them with Shears; and to keep them well, they ſhould be cut very cloſe, and trimmed two or three times a Year, that they may the better keep the handſome Shape you have brought them to.

IN the Squares of Woods where you would raiſe Trees to a great Height, you ſhould have an Eye to the young Plants; and after you have let them get a little Strength, trim them with the Pruning-Knife, leaving only one upright Shoot: You may likewiſe, at proper Diſtances, leave ſome of the moſt ill-ſhapen Plants without pruning, and make Layers of their Branches for furniſhing the Under-Wood.

Laſtly, When a Wood is grown to 20 or 30 Foot Height, they make uſe of a Bill, and get up upon Ladders to lop the uſeleſs Branches, with the Precaution to cut them as cloſe as poſſible to the Trunk of the Tree, and a little ſloping, which the *French* call a Deer's-Foot, that the Water may run off from them without rotting the Tree. You muſt not be concerned at thinning your Wood at firſt, and deſtroying a little of the Covert in its younger Years; for, in the End, the

the Trees will become taller, ſtraiter, and infinitely handſomer.

In lopping Trees you ſhould have the precaution never to cut off the Branches on all ſides at once, becauſe theſe Wounds affording but little Paſſage to the Sap by the Bark which is cut, may ſtop it and leave the Head of the Tree dry, or cauſe it to freeze in the Winter. Theſe Sores therefore ſhould be made but by little and little, Year after Year, lopping the Trees in ſuch Courſe, that all their Wounds may not be freſh at the ſame time, but that they may have recovered thoſe of the foregoing Year, before they are cut a-new.

The right Seaſon for lopping of Trees is a little before the Winter, or elſe in the Beginning of the Spring, that the great Wounds, you make in them be the leſs expoſed to the Froſts, and that they may the more eaſily recover. Over the great Cuts you may clap on Cow-dung or pieces of Turf, to keep off the Heat of the Sun; and if you perceive the Water begins to hollow it, which would rot the Tree in the end, you may nail Plates of Tin or Lead over them, putting Moſs between the Wood and the Plate.

To all the Care I have been now ſpeaking of, muſt be added that too of viſiting your Trees from time to time, to heal their Maladies, and to deſtroy the Inſects and Vermin that attack them; the Means of doing which, is what I am next to treat of.

The Diſeaſes of Trees proceed either from the natural Bottom of Earth, or from their own Defects and bad Conſtitution, or elſe from the Attacks made upon them by Animals, Inſects and Vermin, which may be truly ſaid to be the profeſſed Enemies of a Garden.

The Diſeaſes that ariſe from the natural Bottom of the Earth, are very difficult to be cured; as if the Ground be full of Sand-Stones, or have a Bottom of white Clay. It were to no purpoſe to change the Ground for three Foot deep throughout, and bring in better in its room; for when the Roots of the Trees have once reached this bad Bottom, you'll ſee them languiſh, turn yellow, and decay Year after Year, and at length die away. There is no other Remedy in this Caſe, than to avoid making choice of a Situation where the Ground is ſo ill compoſed.

IF the Soil where you have planted your Trees is too dry, you may help it by baring the Roots of a Tree, and ſupplying it with good new Earth that is very freſh: If, on the contrary, the Soil be too moiſt, you may in like manner lay the Roots bare, and fill the Hole with Horſe-dung a little rotten, which will give Warmth to the Ground; with this Precaution, that you do not lay the Dung too near the Roots.

THE Diſtempers that are cauſed by the bad Conſtitution of Trees, and by their natural Defects, are alſo in a manner incurable: for if the Tree be defective in its Roots, or in its Stem, the beſt you can do is to throw it away, and plant a better in its Place: But if Diſtempers fall upon a Tree after planting, and you ſee it has taken no outward Hurt, you muſt lay it open and examine its Roots, to find if any of them are rotten, or gnawn by Vermin; if they are, you muſt cut them to the quick Wood, to revive them, and make them put out new Fibres. Sometimes alſo this proceeds from Careleſneſs in planting a Tree, when all its Roots are not well filled in with Earth, but Cavities or Stones left about ſome of them, which hinders their uniting with the Ground, and makes a Tree ſuffer extremely. You may do this Work at any time, except during the two Seaſons of the Riſing of the Sap, and fill the Hole again forthwith with new Earth, for fear the Roots take wind.

IF the Diſtemper proceeds not from the Roots, but you find them in good Condition, and yet the Tree pines, you muſt then free the Head of ſome Part of its Branches, or water its Head well to revive it, which is a great Relief to it.

YOU ſhould farther obſerve, that in Places where Trees of the ſame Kind have died two or three times one after another, the Species ſhould be changed; the Earth being worn out for this Kind, and becoming new to another; as if ſeveral Elms ſhould die ſucceſſively in the ſame Place, you ſhould put Lime-Trees, Horſe-Cheſnuts, or other Kinds, in their room.

WHEN you have Hedges to new furniſh, you ſhould obſerve the ſame Thing. So a Hedge of Horn-beam may be ſuccceded by one of Maple, Beech, or young Elms, by

the ſame Reaſon; for it is more difficult to make Plants grow in Gaps and dead Places, than in a new Spot.

IF, when you have laid open a Hedge that is out of order, you find no other Diſtemper in it but Age, or an exhauſted Earth, which often happens, you may remedy it by cutting the Hedge down to four or five Foot high, or by ſtowing it cloſe with the Hedging-Bill, and bringing the two Sides as near as poſſible to the Maſter-Stem, which will invigorate it to make new Shoots. You may likewiſe make Trenches on both Sides, at two Foot Diſtance from the Hedge; for fear of hurting the Roots, and clearing out their bad Earth, fill them up again with the beſt and freſheſt you can poſſibly get.

TREES have alſo their particular external Maladies, as Cankers, Moſs and Jaundice.

CANKERS are taken out with the Point of a Knife, cutting away the part affected to the quick Wood, and binding up the Wound with Cow-dung, in a Linnen-rag, tied about the Tree. As the Canker grows apace, it ſhould be taken off as ſoon as ever it appears, or it will half kill the Tree, if not wholly.

MOSS likewiſe is extremely hurtful to Trees, 'tis like a Scab that hinders their Growth and Beauty; to take it off you muſt rub the parts with wooden Scrapers or hard Bruſhes, or elſe with a rubbing Clout or Wiſp of Straw. This Work muſt always be done ſoon after the Rain, or in a Morning before the Dew is gone, for then the Moſs comes off more eaſily than when 'tis dry, otherwiſe in rubbing too hard you may take off the Rind of the Tree. Some will have it that Moſs proceeds from the ſtony Bottoms that the Roots meet with.

THE Jaundice or Languiſhing of a Tree, generally proceeds from the gnawing of Worms, unleſs where the Tree be half dead. The beſt way is to open the Roots, and cut away ſuch as are damaged to the quick Wood, filling them up again immediately with the beſt freſh Mold; by this means the Sap will riſe afreſh, and nouriſh and ſtrengthen, the places affected. Or before you lay open the Roots, you may throw in ſome Juice of Hogs-dung, which being naturally freſh, will

very much recover the Verdure of a Tree in ſome Caſes. This is a leſs dangerous Remedy too than the other.

AS to the Indiſpoſitions that befall Trees by the War that Animals, Inſects and Vermin make upon them, they are not without Remedy.

THE great Enemies to Trees, are Rabbets, Garden-Mice, Moles, Caterpillars, *May*-Bugs, Ants, Cantharides, Snails, Tons, Turks, and abundance of Worms, the Names of which are unknown to us. The Inſects which attack Orange-Trees and Flowers, ſhall be ſpoken of hereafter.

RABBETS deſtroy a Garden entirely; when they have once found a way into it, they gnaw and nibble the young Woods, Hedges and Kitchen-Gardens, and cut off all to the very Ground, the reſt preſently dying by the Bite of their Teeth, which is very pernicious. You may keep them out, by ſtopping, with Wire, the Openings of the Walls and Grills by which they enter; and if they have made Burrows in the Garden, you muſt deſtroy them by Ferrets, or by ſetting Gins for them.

THE Garden-Mouſe is an Animal that digs the Earth like a Mole, and deſtroys whatever it meets with within the Ground. They are to be taken with Mouſe-Traps, or other Snares that are laid for them, as Earthen Pans full of Water, ſpread over with Oat-Straw, where they come and are drowned. Theſe Snares are uſually baited with Bits of Bacon, or Cheeſe.

MOLES are Creatures that ſpoil a Garden the moſt of any; for they not only do a great deal of Miſchief to the young Plants, in heaving the Earth, and laying open their Roots, but alſo their Tracks ſpoil the Walks and Green-plots. They may be taken ſeveral Ways; firſt, by caſting into their Holes Hemp, Beets, or Hogs-Dung; the Scent of which, it is ſaid, will make them come out: Secondly, by watching them after the Gardeners manner, at ſeveral Hours of the Day, and throwing them out with the Spade; but this is very tedious, and loſes a great deal of time; for upon the leaſt Noiſe heard by the Mole, which is naturally very ſubtle, away ſhe gets. The ſureſt way to catch them, is by Engines in the Form of round Boxes, or Caſes, made of Elder-Boughs ſlit in two, and hollowed out. Theſe being

about

about a Foot long, and two Inches Diameter, are join'd together again with a ſmall Ring of Iron, and are ſtopt up at one End, the other being left open for the Mole to come in at, who removes a little Hook, which holds a Spring that lets go immediately, and ſhuts the Mouth of the Trap, and ſo takes the Moles alive. Theſe Traps ſhould be laid about half a Foot deep in the Mole-Tracks.

You may eaſily make ſuch Traps by this Deſcription.

CATERPILLARS are deſtroy'd by cutting off in the Winter the Leaves to which they ſtick by Cluſters, with Sciſſars from the low Trees, and from the taller with Iron-Hooks and Sciſſars faſten'd to a long Pole, which the *French* call *Echenilloirs*; when theſe Bundles of Vermin are down, they ſhould be burnt immediately. You ſhould made this Search with great Exactneſs, and take the Winter-time for it, becauſe you may then ſee their Cluſters more eaſily, when the Leaves are off the Trees; but do what you can, you will always leave ſome, which are enough to infect a whole Garden.

MAY-BUGS are very eaſy to exterminate, you need only ſhake the Trees pretty ſtrongly, where they ſtick, ſpreading a Cloth below to catch them in, and they will fall down: You ſhould then throw them preſently into the Fire, or Water, leſt they return. You muſt not content yourſelf with only cruſhing them in the Walks, for the Ground yielding to the Foot, you kill but very few, and the reſt ſoon after fly up to the Trees again. Rain is a great Enemy to theſe Inſects, as well as to Caterpillars.

Theſe are in ſome Places called Chafers, in others May *Beetles.*

ANTS, or Emmets, are very injurious to Trees, when once they find the way to them; they are driven away by ſtrewing very fine Saw-duſt about the Root of the Tree; for when they find the Saw-duſt ſtir under them, they run away, and are afraid to come near it. Some make uſe of Veſſels full of Water and Honey ſet at the Foot of the Tree, which draws them in and drowns them; others anoint the Body of their Trees with Bird-Lime, which hinders them from getting up. There is alſo another Secret to catch them, which is to throw into the Ant-Hill a Bone half pick'd, which in an inſtant will be cover'd with a Million of theſe Inſects, and taking it out quick, dip it into Water and drown them; then make uſe of the Bone again as before, and by doing

doing thus, you entirely ruin them. You may likewiſe burn them with Straw, or with hot Aſhes ſtrew'd upon the Ant-Hill.

CANTHARIDES are a Sort of Flies that ſtick to the Tops of ſome Trees, eſpecially the Aſh. They are deſtroy'd by pouring or throwing upon the Heads of the Trees, by means of a little Pump or Jet, Water in which Rue has been boiled.

SNAILS are great lovers of the young Buds of Trees, and with their Slime do them a great deal of miſchief. They are eaſily taken with your Hand, if you look for them Morning and Evening, eſpecially after Rain, for then they come out in the greateſt abundance; they ſhould be preſently cruſh'd under foot.

TONS are great Worms that live in the Ground, and gnaw the Roots of Trees, at the Feet of which you ſhould dig to find them out, and kill them at once. You may then fill up the Hole with new Earth, after having cut the Roots ſhorter that were damaged and gnawed by theſe Inſects, which faſten eſpecially upon young Horn-beam.

TURKS are certain whiteWorms that get into Trees and eat Holes in them, running betwixt the Bark and the Stem of the Tree; 'tis one of the moſt dangerous Inſects, for it not only attacks young Plants, but the biggeſt Foreſt-Trees are not ſecure from them. Theſe Worms ſuck out the Sap, and ſtop it entirely. To deſtroy them, you muſt, without loſs of Time, lay the Roots of the Tree bare, and peel off all the Superficies of its Bark, as far as is attacked by theſe Inſects; you then diſcover them in their Holes, out of which you muſt get them, or kill them as they lie, with the Point of an Iron; without this, going naturally higher ſtill, they beſet the Tree ſo ſtrongly, as to kill it the ſecond Year.

THERE are, beſides theſe, other ſorts of Worms that we have no Name for, which faſten only upon the Leaves of Trees, and eat them in Holes like Lace, which may be deſtroy'd in the ſame manner as the Cantharides.

CHAP.

CHAP. IV.

Of Nurſeries, and the Care that ſhould be taken of them; with the Manner of raiſing from Seed all the Plants that are made uſe of in Pleaſure-Gardens.

THIS Chapter will appear none of the leaſt uſeful in this Treatiſe, if we conſider the Expence a Nurſery ſaves, or the Convenience it conſtantly affords its Maſter. One Sign of its Uſefulneſs is, that all great Houſes are moſt commonly provided with them, as things perfectly neceſſary and indiſpenſable in Gardens of great Extent.

ONE great Advantage of a Nurſery is, that when any Tree dies in a Garden, you may pick one out of your own Ground to ſupply its Place, without being obliged to ſeek abroad, ſometimes a great way off, and withal to buy dear; beſides, Trees take better, and grow more beautiful, when they are raiſed in the ſame Ground, the Roots not having time to take Air and dry in the ſpace that a Tree is taking up and replanting, when done ſo immediately.

'TIS an Accident too often happens to Trees that come from far, that the Roots loſe their Spirits, or are frozen and ſuffer much in tranſporting; which occaſions the Death of moſt young Plants.

NURSERIES are ordinarily ſet in By-places, as at the end of a Park, or the like. 'Tis not but that, with Care, they may be made agreeable enough to Sight, and that 'tis, at leaſt, as pleaſant to look upon a Nurſery, as it is to ſee a Kitchen-

Kitchen-Garden, or an Orchard; but as Nurſeries permit no Alleys to be made in them for Walking, and that there is no treading upon them without ſpoiling the Tillage, 'tis enough that they ſatisfy the Sight only, and that being of no ſervice for walking in, they are planted ſo out of the way.

IN point of a Nurſery, you can never have too much of it; that is, you ſhould always have rather more than leſs than you can have occaſion for, one, two, or three Squares, according to the Size of your Garden: If you have any thing to ſpare at laſt, you may eaſily find ways to diſpoſe of it, and make it of conſiderable Advantage.

THE Place deſign'd for a Nurſery being pitch'd upon, and traced out upon the Ground, you muſt prepare it in this manner: Firſt, examine if the Earth be good, and if it has the Depth required, according to what has been already treated of at large, in the ſecond Chapter of the Firſt Part, to which I refer you, to avoid Repetition. As 'tis poſſible the Earth may not be good, and yet that it may be difficult to alter the Situation of the Nurſery, you muſt do all you can to mend it. If the Ground be exhauſted, you muſt have better brought in; if it be too lean, it muſt be dunged; and if it be ſtony, you muſt break it up, and have the Stones taken out, paſſing the Earth through the Screen. Theſe Obſervations and Amendments ought never to be omitted; for without them, all the Seed and young Plants you ſet in a Nurſery, will languiſh, and never thrive ſo as to make tall and beautiful Trees, fit to fill up one day the dead Places of your Garden.

SUPPOSING then that the Ground be thus meliorated, as ſhall be found neceſſary, you muſt give it one Tillage to lay it even, and to prepare it to receive the Plants; then mark out Rills or Furrows at every two Foot diſtance, ſtraining the Line from End to End, and opening the Rills a Spit deep, that is, about half a Foot.

THEN ſow your Seeds in theſe Rills, and cover them over with Earth, taking care not tread upon them. If you have Fruit, as Acorns, Horſe-Cheſnuts, common Cheſnuts, *&c.* you may, without opening Rills by the Line, make a Hole with the Setting-Stick at every Foot diſtance, and throw a Nut or Acorn into it; after which, you fill up the Hole again, by turning the Earth into it with the ſame Setting-Stick;

which

which is called pricking Fruit into the Ground. This way of Planting makes great Diſpatch, and yet is very good. If you don't like to make uſe of it for Fruit, you may open Rills, and ſow it in them as you do Seed.

You ſhould always take this ſmall, but uſeful Caution, to fix little Sticks at the Ends of every Rill, or Trench, that you may find the Rows of your Plantation again, and be able to diſtinguiſh it from the Graſs, when you come to weed the Nurſery, or to give it an After-Tillage.

The right way to have a fine Nurſery, is to keep it in good Order; this requires ſome Care and Attendance, I own; but the great Advantage you will one day make of it, ſhould induce you to overlook the preſent Trouble. Weeds ſhould never be ſuffered in it; ſo that the Ground ſhould be turned up four times a Year, and weeded as often as any Graſs appears.

To know the moſt proper Seaſons for this Tillage, I refer you to the foregoing Chapter, where is taught the Method of keeping Groves. In great Droughts, you muſt beſtow a little Water to comfort the young Plants, which are too tender and weak of themſelves to withſtand the violent Heat of the Sun.

It muſt be obſerved, that the Plants which riſe from Seed promiſcuouſly ſown in Rills, ſhould be taken up the ſecond Year, and be replanted a Foot one from another, in other Trenches; without this, they will grow too thick, hurt one another; and you will not be able to draw them, conveniently, when you want them.

Transplanting of theſe Trees may be compared to what the *French* call *Bâtardiere*, in the caſe of Fruit-Trees, which are drawn at two Years end out of the Nurſery, to be replanted and raiſed in the * *Bâtardiere*: However, I would adviſe one thing, in caſe you would beſtow the Pains, that when your Plantation has got ſome Strength, as the ſecond Year, you would thin, and unfurniſh it, by pulling up ſeveral ſmall Plants from between thoſe that are ſtronger, ſo that they may be at leaſt a Foot aſunder. Before you ſet about this Work, the Nurſery ſhould be weeded, that you may better diſtinguiſh the Plants. This is doubtleſs a great deal of Trouble; but thus your Plants will

* *A Place where young Trees are ſet, to be afterwards removed.*

not need to be taken up the ſecond Year to be replanted elſewhere, and will thrive better, having already taken Root.

IF you would raiſe a Nurſery in little time, inſtead of ſowing, you muſt plant it all at once, with Plants that have already taken Root, and are ſomewhat ſtrong. This will be no great Expence, a thouſand of theſe young Plants coſting no great Matter. You gain, by this means, the two Years the Seed takes up to raiſe and form the like Plants; and you are not obliged to take them up again two Years after, to replant them in other Places, or to be at the trouble of thinning them, as was juſt now mention'd. This is indeed the beſt way of planting a Nurſery, that you can follow.

SUPPOSING then that you have the Conveniency of getting young Plants, as Elms, Cheſnuts, Lime-Trees, Horſe-Cheſnuts, *&c.* open Trenches at every two Foot, and ſet your Plants in them by the Line, at a Foot diſtance one from another, and no more; for the nearer the Plants are together, the better they guide one another. Then cover the Trenches again, and ſettle the Ground about the Plants, leſt the Roots take wind. You muſt take care not to cut your Plants off cloſe to the Ground, as many People do. 'Tis a very ill Cuſtom; all that you need to do, is only to trim the Roots of the Plants, by cutting off the ſmall Ends of them.

WHEN your Plants are grown pretty ſtrong in your Nurſery, as to be three or four Years old, you muſt begin to manage and bring them up in this Manner. Prune off all your little Buds and Twigs along the Stem to the Top, and pick out among all the Branches, that which is moſt upright with the Foot of the Tree; then, without cutting any thing, break the End of the uſeleſs Branches, and twiſt them about the good one, ſo that they may ſerve to keep and direct it as Need requires. When theſe twiſted Branches are bigger than that you would raiſe, for fear they ſhould take away all the Sap, you muſt peel them all round, about three Fingers high, which will ſtop their Nouriſhment.

THUS you are every Year to guide the leading Shoot of theſe young Trees higher and higher, looking out new Branches to wind round them and keep them upright, and pruning off, with the Knife, all thoſe that are below to the very Foot. By this means you will make your young Plants grow

grow tall and ſtrait, and have the pleaſure of ſeeing them one day very fine Trees; provided, as was ſaid in the foregoing Chapter, you leave them no more than one leading Shoot.

WHEN in a Nurſery there are any Trees that lean of one Side, they muſt be ſet upright again, by carrying them over and twiſting them ſo with thoſe that are near, that they may ſuſtain and keep one another to rights as they grow. The Time of the Riſe of the Sap is the moſt proper for this Work, Trees then bending more eaſily, without being ſubject to break. The Elbows and SS along the Stem, may be ſometimes redreſſed in the growing, and may be helped by putting Strings through Clefts made in the Hollows, which the Sap will ſwell and fill up by little and little.

THESE Trees having reached the Age of ſeven or eight Years, and being grown to ſix or ſeven Inches thick, and between fifteen and twenty Foot high, are then in a Condition to be ſet in the Garden, if there be occaſion to new furniſh any vacant Places. They ſhould not be drawn ſo ſoon from the Nurſery, as to loſe the time of their thriving, and becoming beautiful; and when you would take up any, they ſhould be raiſed with their Clod in the following Manner.

You may boldly raiſe Trees about All-Saints Day, when the Leaf begins to fall, there being then no Danger from the Saps moving.

AFTER having pitch'd upon the Trees you would take from the Nurſery, and marked them with Ozier-Twigs or Straw, lay them open all round, leaving a Ring or Clod of Earth at the Foot of the Tree. You ſhould take care not to hurt the Roots, nor give the Clod any great Shake, for fear it tumble in pieces; for which Reaſon you ſhould ſet very expert Gardeners about this Work, leſt in raiſing one Tree, they ſpoil two or three round about it, which will ſoon ruin a Nurſery. Theſe Trees are not hard to raiſe, their Roots lying almoſt even with the Ground.

TO raiſe Trees in their Clod with Succeſs, you ſhould obſerve if the Earth has naturally ſomething of a Body and Tenacity in it, as ſtrong Earths have; if ſo, you may raiſe them either at the beginning of the Spring, or before Winter, 'tis no matter which; the Earth will hang together alike in either of thoſe two Seaſons. But if the Earth be too light and moveable, which the *French* call *Veule*, that is, if it have no binding Quality in it, as looſe ſandy Ground, you muſt uſe ſome Caution in the Performance: And becauſe the Earth

When you buy Trees in their Clod, you ſhould examine if they have their natural Ground about them, that is, the ſame that was raiſed with the Tree; for many times 'tis only laid on for a Cheat.

cannot hold itſelf together to form the Clod we are ſpeaking of, you ſhould lay open the Tree before the Froſts come, making a Clod of Earth about the Foot of it, and leave it thus without raiſing it, till the ſevere Froſts taking the Lump, harden it ſo, that you may remove the Tree without fear of breaking the Clod. This Work ought to be done before Winter, becauſe of the Froſt, theſe ſorts of Soils not permitting it to be done in the beginning of the Spring.

IF the Clods of your Trees are three or four Foot in Compaſs, as it happens when the Trees are vigorous, you ſhould put them into Baskets made on purpoſe: Without theſe it would be very difficult to carry the Trees to their deſigned Place, without running the hazard of ſpoiling the Earth of the Clod.

YOU ſhould always make the Clods as large as poſſible, to take in the more Roots, and if in raiſing the Tree you have means of preſerving any long Roots, tho' hanging out of the Clod, you ought to take the Advantage of ſo doing; they will be greatly ſerviceable to the future growth of the Tree, though they are not covered with Earth. You have no more to do but to trim theſe long Roots at the ſmall Ends, and extend them in the Hole, filling them in well with Earth as uſual, and thus you have the benefit of every part of them.

BEFORE you raiſe a Tree from the Nurſery, you ought to prepare the Place where you would plant it, making a Hole for it of a Size and Depth and proportionable to its Strength. If the Tree be not of an extraordinary Size, nor of too full a Head, two Men will eaſily carry it upon a Colt-Staff, or Hand-Barrow, while a third ſupports it, and keeps it upright with his Hands; but if your Tree ſhould be very big, the Clod of great Compaſs, and the Head large and well furniſhed, as are the great Trees planted in the Royal Gardens; you muſt have a Machine on purpoſe to remove them, which is a kind of Skid or Sledge, upon which the Tree is ſet a little leaning, and ſupported at the Head, for fear the Branches ſhould break. There is alſo another Machine rather more convenient, which is a kind of Cart with two great Screws and Chains for raiſing and hanging up the Clod of the Tree, for keeping it without trouble in the carrying, and for lowering it into its Place. Theſe Machines are drawn by two Horſes, or more, if there be occaſion.

I SHALL ſay nothing of the Manner of planting theſe Trees, having already ſufficiently enlarged upon that Subject in this Part: Only giving you this Hint, that to fill in the Earth well about the Clod of the Tree, you muſt often thruſt it in with the End of a Stick. I proceed now to the Seed and Fruit of Trees proper for Pleaſure-Gardens, ſhewing the Time they ſhould be gather'd in, how to know their Goodneſs, how to keep them in the Winter, and what is the fitteſt Seaſon for ſowing them in the Nurſery.

WE have ſeveral Kinds of Seeds, as that of the Elm, Lime, Sycomore, Aſh, Horn-Beam, Maple, and Birch, which produce Trees of the ſame Name, and are the moſt made uſe of in our Gardens.

BESIDES which, there are five Sorts of Fruits, the Acorn, the * Marron, the Cheſnut, Beech-Maſt, and the ſmall Nut, which produce the Oak, the Horſe-Cheſnut Tree, the Cheſnut-Tree, the Beech, and the Haſel or Filberd-Tree. All theſe Seeds and Fruits ſhould be gather'd in the Months of *October*, *November*, and *December*, except the Seed of the Elm, which is to be gather'd in the Month of *May*, and ſhould be ſown at the ſame time differently from other Seeds.

* *Fruit of the Horſe-Cheſnut-Tree.*

TO know if your Seed has the Qualities required in it to be good, examine if it be large, round, full within, and of a brisk and lively Green. It ought to be freſh, and of the ſame Year you intend to ſow it in. Theſe are the ſureſt Signs of its Goodneſs. On the contrary, if the Seed be flat, hollow within, and look oldiſh, and of a faded Green, it is worth nothing at all for ſowing, and will never come up, being incapable of Vegetation, and of acting according to the Order of Nature.

AS to the five Kinds of Fruit, which are, the Acorn, Marron, Cheſnut, Beech-Maſt, and ſmall Nut, you ſhould chuſe them large, ſmooth, bright and full, not ſhriveled, nor worm-eaten or gnawed by the Mice. All theſe Fruits ſhould be of the ſame Year you deſign to ſow them in.

I SHALL mention here by the way, one Thing concerning the Acorn; which is, that you ſhould ſow it at once in your Woods, without a previous ſetting of it in the Nurſery, the Oak being in its own Nature very difficult to take again, by reaſon of its Tap-Root; yet, if you have one in the

the Nurſery that you would replant, you muſt be ſure not to cut off the Tap-Root of it, becauſe the Oak never thrives ſo well afterwards, and puts out nothing but weak and miſſhapen Branches.

THE moſt proper Seaſon for ſowing the Seed and Fruit I am ſpeaking of, is the latter End of *February*, or the Beginning of *March*. This Time of the Year is more favourable to the Seed than the Beginning of the Winter, when 'tis expoſed to divers Accidents, as to rot and grow mouldy with the too great Moiſture of the Seaſon, to be frozen by the hard Froſts that pierce very deep into the Ground, or to be eaten by the Birds and Mice that dig it up again. Theſe are ſufficient Reaſons why you ſhould ſow your Seed rather at the Beginning of the Spring, than at the End of Autumn; and, I think, nothing can be objected againſt following this Method, but the Difficulty of keeping it in the Winter, which I am going to explain immediately.

La Quintinie *at the cloſe of his Book ſpeaks very well, and fully upon this Head.*

WHEN you intend to ſow, you ſhould do it in mild Weather, not windy, but ſuch as promiſes Rain in a little time, that the Ground may be ſettled which has received the Seed, and that the Water may facilitate its Shooting up the ſooner. You never need to ſtay for the Full or Decreaſe of the Moon for Sowing; this, however it has obtain'd, being no more than a meer Notion, and an old Woman's Tale; Experience has ſhown us, 'tis nothing but an idle Conceit, and ſuch as ought to be entirely rejected.

AS to the Manner of keeping your Seed in the Winter, you ſhould chooſe a dry Place for it, as a Granary, or the like, where you ſhould ſpread it abroad, and take care to look upon it from Time to Time, and to ſtir it as you do Corn. Or elſe you may put it up in little Bags, hung up to the Ceiling in a dry and airy Place.

FRUITS, as the Acorn, Cheſnut, *&c.* are kept in quite another Manner. Take ſeveral large Baskets, at the bottom of which lay a little Sand, and then put in a Lay of Fruit, ſuppoſe of Cheſnuts, and then another Lay of Sand, and ſo till you have filled up the Baskets, covering them with Sand at top. Fruit put up in this manner will keep without ſpoiling, and ſprout in the Sand during the Winter, provided,

as I ſaid before, it be ſet in a dry place, and ſomewhat warm, if ſuch can be had.

YOU may carry theſe Baskets, without opening the Lays, into the Place deſigned for planting, and be careful when you take out the Fruit for that Purpoſe, not to break off the Shoot they have made in the Sand, which would much retard their Growth.

I MUST not here forget to ſpeak of Ever-Greens, which are indeed in very great Eſteem, and extremely neceſſary in fine Gardens.

THE Yew, the Picea, and the Holly, are the moſt conſiderable of all Ever-Greens, and thoſe that are moſt made uſe of. They yield a ſmall red Berry, which is gather'd when ripe, and is ſown in the ſame manner as the other Seeds I have been ſpeaking of: All the difference is, that theſe Berries are much longer a raiſing, eſpecially the Yew, which is the ſloweſt; they alſo require a better Earth, ſuch as you provide for Flowers and Orange-Trees.

IF Seed of this kind be ſown in ordinary Ground, where you make Nurſeries of other Trees, it will be very difficult to raiſe, and the Greens that come up will be a great while before they are in a condition to be ſet in your Gardens, and to afford you any Delight and Satisfaction. You may, if you pleaſe, make diſtinct Beds of them, like thoſe of a Kitchen-Garden.

WHEN theſe Seeds are come up, you ſhould be very careful to keep the Plants free from Weeds, to turn up the Ground about them, and to water them often. The Yew and the Holly are the longeſt a growing; the Picea comes up much faſter.

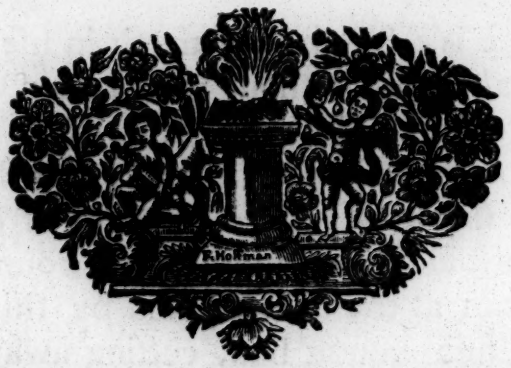
BOX likewiſe is a Shrub very much in uſe, and which you cannot well make ſhift without in a Garden, it being equally fit for Parterres and Hedges. It is to be raiſed from Seed, which ſhould be ſown in good Earth; but the Way to have it readily, is to ſlip it off from old Stocks of Box, and to replant it, burying it almoſt entirely in the Ground, which makes it ſhoot out again at the Neck; and by this means you are furniſh'd with fine young Box, cutting away the Roots and Fibres of the old.

As to the Cypreſs, Pine, Fir-Tree, and Scarlet-Oak, their Fruit is to be gather'd in Seaſon, and ſown after the uſual Manner, ſtill obſerving that it be in the beſt Ground, and be very carefully looked after; Trees of this Kind are always much more tedious and hard to raiſe, than others: There being nothing but excellent Earth that can haſten their Growth.

WHEN your Ever-green Trees and Shrubs are got to ſome Height, you may then begin to ſhape them at your pleaſure, clipping them with the Shears into Balls, Pyramids, *&c.*

As all Ever-greens naturally love the warm Countries from whence they were brought to us, and that the Climate of *France* is very different from that of the *Indies*, in the Degree of Heat, it were better to raiſe from Slips and Layers, than to ſow the Seed, which often fails. You may make Layers from the Foot of any large Yews or Piceas that you have, which will do very well; for at two Years end you may take up your Layers very well rooted, and plant them in your Nurſery. To forward them the more, you may bore through the Branches, as you make an Oilet-Hole, the Wood being very hard to pierce. You may likewiſe buy young Plants of this Sort, and raiſe them in your own Nurſery. All theſe ways gain a good deal of Time.

OTHER Ever-Greens, as the Phillyrea, Juniper, Alaternus, Savine, *&c.* are raiſed after the ſame Manner as the foregoing, but grow much faſter.



CHAP.

CHAP. V.

Of Orange-Trees, Jeſſamines, Pomegranates, Myrtles, and other flowering Shrubs, with the Method of raiſing them from Seed and Layers, or of chooſing them when grown; together with the Manner of planting and grafting them, and the Time of their Bloom.

THOUGH this Chapter and the three following may not have the ſame Air of Novelty, as the reſt of this Work, (the Subject of theſe having been already often and largely treated of;) I thought my ſelf bound however to ſpeak of it here, for a reaſon very natural and obvious: Every one knows that Orange-Trees, Jeſſamines, and Pomegranates; with the Flowers of the Seaſon, do greatly contribute to the Ornament of Gardens, and conſequently will be here as in their Center. I hope alſo to do ſome Service to the Publick, by preventing the reading of large Tracts filled with long Catalogues without the Explications needful, and by laying open all that is crept in of myſterious or miſchievous upon this Subject. It will perhaps look ſurprizing that a Matter hitherto ſo perplexed, and of which ſo many People have made a Bug-bear, ſhould appear ſo plain and eaſy: Although the Subject then be not new, the Manner of handling it will be found pretty much ſo, what relates to Particulars and Generals being here delivered together.

A new Treatiſe of Orange-Trees &c. *Eaſy Inſtructions to know all Sorts of Orange-Trees, Lemons* &c. *A Treatiſe of the Culture of Orange-Trees by* la Quintinie, *Tom.* 2.

TO conform to the Method I followed in diſcourſing of wild Trees, I ſhall begin, before I ſpeak of the Culture of Orange-

Trees and other flowering Trees, with giving you a ſhort Deſcription of each in particular, ſpecifying their ſeveral kinds, their Name, their Quality and proper place in Gardens; the way by which they are perpetuated, thoſe which keep their Verdure in the Winter, or thoſe that loſe it, and laſtly thoſe which remain abroad, or ſuch as muſt needs be ſet in the Green-houſe.

THEY are diſtinguiſhed into Trees, Shrubs and Under-Shrubs: thoſe of the Height of eight or ten Foot, we call Trees; thoſe under this Height, we call Arbriſſeaux or low Trees or Shrubs; and thoſe which have no more than one or two Foot in Stem, we call Arbuſtes or Under-Shrubs.

The Orange-Tree.

THE Orange-Tree is without controverſy the fineſt of all Flower-Trees, its ſtrait Stem, its ſmooth Rind, its large ſhining Leaves, its fine Flowers, its excellent Fruit, its regular and moſt beautiful green Head, are all of them truly admirable. They are diſtinguiſhed into ſeveral Sorts, as the Citron-Tree or Balotin; Lemon-Tree, the Bigaradier or large Orange-Tree, the Cedrat, another kind of Citron; the *Riche-depoüille*; the large Lemon-Tree; *Adam*'s Apple-Tree; the Bergamot Orange-Tree; the *China* Orange-Tree, *&c.* The Difference between them is inconſiderable, conſiſting only in this, that ſome are Trees which carry a Stem, and others are but Dwarfs or Buſhes; or that the Fruit of ſome is ſweet, and that of others ſharp: They all keep their fine Leaves, and we ſhould be too happy about *Paris*, where Gardening is much in vogue, if we could ſet them into Ground, to form our Walks and Groves, as they do in *Spain*, *Portugal*, and *Italy*, and in ſome of the * Provinces of *France*, where the Heat is ſo conſiderable that they have no need to ſhut them up in the Winter, as we muſt do hereabouts. Orange-Trees come of the Kernels that grow in the Heart of the Fruit, and are of a very long † Duration.

The Orange-Trees at Trianon *are put into great pail-faſhioned Tubs, hooped with Iron, which being buried in the Ground, look as tho' they were planted there. And this not only in the Groves of the King's little Garden, but even in the Hedges which cover the Walls. In the Winter they are carried in with other Caſes of Greens.*

* Provence *and* Languedoc.

The Pomegranate-Tree.

THE Pomegranate-Tree is no way comparable to the Orange-Tree; its Leaf is ſmall, pretty long, and falls in the Winter; the Head and Stem are handſome enough; its Bark is whitiſh and pretty ſmooth; its Flowers are of a very lively red: They are chiefly reckoned of two Kinds, that with the Fruit,

† *There are Orange-Trees at* Verſailles *near* 200 *Years old, as the* Grand Louis, *the* Bourbons, *&c. which are ſtill very vigorous.*

and

and that with the Flower, which is the moſt eſteemed when it is ſtriped. This is more tender than the other, and muſt be houſed in the Winter; but the Fruit Pomegranate-Tree is hardy enough to ſtand in the open Air, and its Fruit is very much eſteemed. Theſe Trees are multiplied by Slips and Layers.

The Myrtle.

THE Myrtle is looked upon in *France*, as one of the Arbriſſeaux or Shrub-kind; it rarely grows ſo ſtrong as to make a Tree, however it has a fine Stem. Its Leaf is of a very ſhining Green, its Flowers are near as white as thoſe of the Haw-thorn, its Rind is grayiſh and very ſmooth; it has one excellency above all the others, which is, that its Leaves ſmell with a moſt agreeable Flavour; but it is the tendereſt of all of them, the Orange-Tree not excepted. They are diſtinguiſhed into five or ſix ſorts, the common Myrtle-Tree, the double, the ſtriped, the hundred-leaved Myrtle, the Myrtles of the great and of the leſſer kind. They are all raiſed in Caſes, and always keep their Leaves. The Myrtle is perpetuated by Seed, Slips, and Layers, as alſo by Cuttings.

The Laurel.

THE Laurel or Bay is a very fine Tree, and the moſt diverſified of all in the ſix Kinds of it that are known. Some of them conſtantly keep their Verdure, as the female Laurel or Bay-Tree, the Laurus-Tinus, the * Cherry Laurel, and that of *Alexandria*, which may be always kept abroad, eſpecially the two latter. Others loſe half their Leaves, as the Oleander or Roſe Bay-Tree, the red and white Laurel, and that with the double Flower, which are tender enough to require Houſing in the Froſt. The Bay-Tree, and Laurus-Tinus, are raiſed in Caſes almoſt always into Trees of Stem or Standards. The Cherry-Laurel is uſed in Hedges, and the *Alexandrian* is clipt into Balls for filling Borders: Their Leaves are of a fine ſhining Green, and have a ſpicy Smell and Taſte, eſpecially thoſe of the Bay-Tree; their Flower is of a Yellowiſh-white, and of a very ſtrong Smell. That of the *Alexandrian* Laurel grows in cluſters, and the Laurus-Tinus flowers twice a Year. As to the Roſe Bay-Trees, and thoſe with the double Flower, they are raiſed in large Tufts out of Caſes, their Leaf has no Smell, and is not of ſo fine a Green as the others: their Flower is much like a common Roſe. The Wood or Rind of the Laurel, is ſomewhat grayiſh, and very

* *This is the common Great Laurel in great* England.

ſmooth. Laurels in general are multiplied by Cuttings, Slips, and Layers. They live a long time.

The Jeſſamine. THE Jeſſamine is a Tree very agreeable and of great variety in its Flowers: the Wood of it is Green, and very full of Branches; its Leaf is very delicate, of a bright Green, its Flowers are ſome White, ſome Yellow, and ſome have a mixture of Red. There are ſeveral Sorts of it, as the common Jeſſamine, the *Spaniſh* Jeſſamine, the *Virginian* or *American*, the *Indian*, and Jonquil Jeſſamine. The fineſt for Flowers and Stalk, are the *Spaniſh* and *American*; which, dreading the Cold, ſhould be houſed in the Winter, and will keep their Leaves: For the Jonquil Jeſſamine it keeps abroad, as alſo the common Jeſſamine, which is uſed in Hedges, and in covering Arbours of Lattice-work; its Leaves fall off in Winter. The two laſt are propagated by Cuttings and Layers, the others are commonly grafted.

The Roſe-Tree. WE have ſeveral kinds of Roſe-Trees, the common, the ſtriped, the *Dutch* or hundred-leaved Roſe-Tree, the *Virginian*, that of *Guelderland*, the Damask, and the Monthly Roſe-Tree. The fineſt of theſe are the *Dutch* hundred-leaved Roſe, the Striped, and the Monthly Roſe-Tree, ſo called becauſe it flowers ſeven or eight Months in the Year; the Wood is Green and very full of Prickles, its Leaf oblong, ſtreaked and indented, its Flowers of an agreeable Smell, generally Red, except the *Flemiſh* and Damask Roſes, which are White; the others differ in nothing, but that they are double or ſtriped: all Roſe-Trees loſe their Leaves, but they are hardy enough to continue abroad. They are raiſed in Trees or low Hedges, and they alſo ſerve for covering latticed Arbours. You may raiſe what number you pleaſe from Cuttings and Layers.

The Lilach. THE Lilach affords a very ſweet and agreeable Smell, its Wood is white, its Leaf long and pointed, and its Flowers diſpoſed in long cluſters, of a Colour between a Blue and a White. We have two different ſorts, the common Lilach, and the *Perſian*, both which loſe their Leaves in the Winter, but always keep their Place abroad. The *Perſian* grows not ſo high as the common Lilach, and its Leaf and Flowers are more delicate; it ſerves as a flowering Shrub in Parterres. The Shoots which the Lilachs put out at Foot, perpetuate their Species.

THE

THE Broom is alſo a very agreeable Shrub in a Parterre, eſpecially the *Spaniſh* Broom, which is very different from the Jonquil-Broom; their Wood makes long green Rods, like the Bulruſh. They riſe high without many Leaves, their Flowers are large, of a golden Yellow, and ſweet Smell; they are perpetuated only by Seed. *The Broom.*

THE Althea Frutex, which imports a Shrub, is alſo called Mallows-Royal; it is made uſe of in Borders: its Wood is Yellowiſh, its Leaves like thoſe of the Vine, its Flowers are in the Shape of little Bells, ſometimes White, ſometimes Carnation or Fleſh-colour. It loſes its Leaves, and is not taken out of the Ground; it is generally raiſed from Seed. *The Althea Frutex.*

THE Honey-Suckle, tho' very common, is however a Shrub of the moſt grateful Smell that can be; it may be kept as high or as low as you pleaſe, and is of uſe to cover Arbours, and Walls, and to form Balls for Parterres; that kind which is called the *Roman* Honey-Suckle, is of the moſt lively Colour, and has the ſmalleſt Leaf. Its Wood is reddiſh, naturally fit for nailing up; its Leaves are round and whitiſh, its Flowers diſpoſed in the form of Pipes, of Colour white, inclining to yellow and red: its Leaf falls in Winter, notwithſtanding which, it keeps in the Ground; it produces abundance of Shoots. *The Honey-Suckle.*

THE Syringa, or Pipe-Tree, is a Shrub of a pretty good but very ſtrong Smell, its Wood is Red, its Flowers White, its Leaf ſmall and pointed, of a browniſh or dusky Green; it continues in its Place, and loſes its Leaves every Year. It is made uſe of for hiding Walls, and to make buſhy-headed Dwarfs, and is eaſily raiſed from Layers. *The Syringa.*

THE Privet or Liguſtrum is the leaſt of all theſe Shrubs, however it makes pretty good Balls and Hedges. The Wood of it is White and Smooth, its Leaves oblong, narrow, and of a pale Green, its Flowers white, with little Scent. This Shrub is raiſed both from Seed and Layers. *The Privet or Prime-print.*

THE Cytiſus, called alſo Trifolium, becauſe its Leaves are ranged by three and three, and are like the Treſoil or Clover-graſs; they are ſmall, round, and of a very agreeable Green. The Wood is reddiſh, and the Flowers yellow; it is not taken out of the Ground, but it loſes its Leaf in the Winter as the Privet does. It is of uſe only in Parterres, and comes of Layers and Slips. *The Cytiſus.*

THE

The Roſemary-Tree. THE Roſemary-Tree is a hardy Shrub, and is ſet both in Caſes and in the Ground, and holds its Leaves all the Winter. Its Wood is grayiſh, and is furniſhed with ſmall Leaves long and narrow, of a dusky Green on the upperſide, and White on the underſide; it has an Aromatick ſmell. Its Flowers are of a pale Blue, and it is produced both by Layers and Seed.

The Colutea. THE Colutea is a ſmall Shrub, but very agreeable for its fine Flowers of a Purple Colour; it does not riſe very high, its Green is pale, its Leaf ſmall, and in ſome reſpects like that of the Acacia, it holds its Leaf in the Winter in the Green-houſe. Its Wood is Green mixt with Red, its Form is Pyramidal, it produces large Husks, in which the Seed lies.

The Tree of Judas. THE Tree of *Judas* is much eſteemed for its fine red Flowers, it riſes pretty high, and very thick. Its Wood is reddiſh, and its Leaf like that of the Apricot-Tree. It ſtands abroad, but ſheds its Leaves; it is multiplied by Seed and Layers.

The Baſtard Sena-Tree. THE Baſtard Sena-Tree riſes to a pretty good height, nevertheleſs it may be clipt into Balls. Its Wood is bright, its Leaves ſmall, round, and of a whitiſh Green, and its Flowers are Yellow: its Fruit called Bladder-nuts are of a greeniſh Colour and hollow, ſo that they make a noiſe when broken upon the Hand: it loſes its Leaf, and will ſtand abroad. It is uſually raiſed by Layers.

The Lentisk. THE Lentisk or Maſtick-Tree is ſometimes larger, ſometimes ſmaller, but almoſt always a Shrub: Its Wood is grayiſh, its Leaves reſemble thoſe of Myrtle, are always Green, and of a pretty ſtrong Smell; the Flowers and Fruit are Red, and grow in cluſters. It is too tender to ſtand abroad in the rigour of the Winter, it is multiplied by Layers and Slips.

The Amomum or Solanum. THE Amomum is an agreeable Shrub, the Wood of it is Brown, the Leaf long, of a dark Green; the Flower White, the Fruit Red, and round as Cherries: it keeps its Leaves and its Fruit in the Green-houſe, and is naked only in the Spring. Its Species is propagated by the Seed.

The Leonurus. THE Leonurus does not riſe very high, it has a grayiſh Wood, a long narrow Leaf, and a red Flower; it ſheds its Leaves, and is tender enough to be ſet in the Green-houſe in the Winter. It is increaſed by Cuttings and Layers.

THE

THE Emerus has yellow Flowers, a greeniſh Wood, a Leaf very much like that of the common Jeſſamine, and of the ſame green; it is formed into Balls which remain in the Ground, but loſe their Leaves in the Winter. Layers and Slips continue its Species. *The Emerus or Syturidaca.*

THE Pyracantha is a Shrub that riſes not very high: Its Wood is clear and thorny, its Leaf ſomewhat like that of the Pear-tree; its Fruit red, and which hanging all the Winter, at a diſtance makes it look as tho' full of Fire, for which reaſon it is called *The Burning Buſh.* Its Seed is found in its Fruit. *The Pyracantha.*

MOST of theſe Shrubs have alſo other kinds of the ſame Name, being of a large Family: ſuch are the Solanum or Amomum, the Colutea, the Cytiſus, *&c.* I have only mentioned here the kinds that are moſt eaſily found, and which are moſt in uſe for embeliſhing Gardens.

THERE are alſo ſeveral foreign or exotick Shrubs that flower, the Culture of which is very difficult; but as they are of no great ſervice in the Dreſs of our Gardens, and that the Curious look after them more for their Rarity and Relation to Botanicks, than for any real Beauty, I ſhall paſs them over in ſilence.

THE Buſineſs now in hand is to ſhew the Method of raiſing all theſe Trees, whether from Seed, Layers, Cuttings or Slips; or how to chuſe them when grown, with the Manner of planting and grafting them.

IN *France* we raiſe Orange-Trees from the Seed or Kernel, as likewiſe from Trees ſent to us from warmer Countries.

TO raiſe them from the Seed, you are to take that of the ripeſt and fineſt Oranges, and ſow it in the Month of *March* in long Boxes, or in Pots filled with prepared Mold, the Compoſition of which, you ſhall find in the following Chapter. You are to put theſe Kernels three fingers deep into this Earth, and about three inches diſtance one from another: when they riſe too thick, you muſt pluck up ſome of them, taking out thoſe that are cloſeſt together, that the others may thrive the better. Theſe Kernels, in two Years time, form wild Stocks, which are proper to be replanted ſingly in Pots of Earth, and at five or ſix Years end they may be grafted. 'Tis ſuppoſed that you take care to ſtir the Earth about them often, that you keep them free from Weeds, and that you

water them from time to time; as alſo that you put the Pots where they are, into hot Beds to forward their growth. In the Winter theſe Pots are to be taken out of the Ground, and ſet in the Green-houſe.

THE other Manner of raiſing Orange-Trees is much quicker in *France*; the Trees which are ſent us from *Genoa*, from *Lisbon* and from *Provence*, being already of ſome Years growth, there is no more trouble than to know how to chuſe them well. Theſe Trees uſually arrive in *March*, *April* and *May*, ſome without their Earth and Head, others with the Earth about them, full of Leaves and Branches; the Roots of them are wrapt up for fear of the White Froſts, which are common at this time of the Year.

AS to the Orange-Trees that are headed and have no Earth about them, you ſhould chuſe the ſtraiteſt and the talleſt Stem you can, without minding the Size it may afterwards grow to. The Roots ought to be well preſerved from galling or loſing their Bark in the Carriage, of ſome ſtrength and of a yellowiſh green, not inclining to the dark or Jaſper Colour, which is the very worſt Mark of their preſent State, and the moſt certain Sign of their approaching Death. You ſhould cut off the Ends of them, to know if they are too dry or too moiſt; after which, trim all their Roots, and let them be ſoaked in Water ſome hours before you plant them in your great Pots, which ſhould be quite buried in a Bed, to make them take the more eaſily. Here let them remain till they are to be put into the Green-houſe for the Winter; and in the following Spring, plant them out in Caſes proportionable to their Size, without cutting any thing off from their Clod; and manage them afterwards as other Orange-Trees.

IT is certain that Trees with their Earth about them, furniſhed with Boughs and Leaves, are to be preferred to thoſe laſt mentioned, provided that this Clod of Earth which covers their Roots be natural: in moving the Stem a little, you may perceive if it be counterfeit, for the Earth laid on will preſently fall in; you ſhould always take ſuch Trees as have a ſtrait tall Stem, and whoſe Branches will one day form a very round Head: The Roots that run beyond the Clod, and the Boughs, ſhould be of a Yellowiſh-green, the Bark of a moiſt Temperament, and full of Sap; the Leaves ought to be firm,

brittle and riſing, which is a ſign of Vigour. When you plant them, you ſhould trim the Roots that exceed the Clod, cut off the ſmall diſordered Boughs, and ſhorten ſuch large ones as are ill placed, to three or four Inches from the Body of the Tree, to make them put out new Shoots, vigorous and better placed. Laſtly, dip the Clod one moment into Water, and after having let it drain a while, plant the Tree in a Caſe proper for its Size, juſt as * you remove old Orange-Trees into new Caſes. They ſhould be planted in an airy Place, but little expoſed to the Sun.

* *Spoken of in the following Chapter.*

THERE are ſeveral Orange-Trees to which we require no Stem, as the Dwarfs and buſhy Orange-Trees, and the Dwarf *China* Orange-Trees, notwithſtanding which, that with the Trunk is always the nobleſt and the fineſt Orange-Tree: You ſhould not take all grafted Trees; the Stocks known by their Prickles oftentimes prove the moſt beautiful Trees, and are always more tall and vigorous than the grafted Orange-Trees; their fault is, that they are of a more yellowiſh Green than the others, and bear but few Flowers, and conſequently little Fruit. For Variety ſake, you ſhould chuſe ſome Citron and Lemon-Trees, which are known by their Leaf, where there wants that little Heart at the End that is found in other Orange-Trees.

PROCEED we now to the Manner of grafting theſe Trees, which is what you are indiſpenſably obliged to; the Stocks without this Operation will never bear much Fruit, nor abundance of fine Flowers; in this reſpect like other Fruit-Trees, which never produce large and excellent Fruit, if they are not grafted with the beſt kinds.

AN Orange-Tree is generally grafted upon an Orange, and a Citron upon a Citron, tho' you may graft a Citron or a Lemon-Tree upon an Orange Stock; but it does not ſucced ſo well, and oftentimes makes the Tree abortive. This grafting is done two Ways, either by Scutcheon-grafting, or by Inarching or Approach, which are both ſo generally known, that I need not ſpeak of them here; but as I write for the Information of all Mankind, and that there are different Ways of laying in the Scutcheon, I ſhall give as ſhort an Account of it as is poſſible.

By means of the Branch and Scutcheon we communicate the choiceſt Trees and Fruits from one Kingdom to another, which could not be done by Approach. This is one of the nobleſt Inventions in Agriculture.

WE call that the Stock on which the Graft is to be applied, and the Branch of the Tree, whoſe Kind we would propagate, is called the Graft: The Scutcheon is a Piece raiſed upon the Rind of this Branch, in form of a Triangle, which has its Name from an Eſcutcheon in Armory, to which it bears ſome Reſemblance. That of Inarching or Approach, is ſo called, becauſe one Tree is brought to the other, to perform this ſort of Grafting.

THE Inſtrument called the Grafting Knife, which is uſed in this Work, is a pointed Knife in an Ivory Handle, the End of which is made flat in the ſhape of a Surgeon's Spatula.

TO perform the Scutcheon-grafting, cut from an Orange-Tree ſome of the laſt Year's Branches, with the beſt Buds of the Spring, and ſtrip off all the Leaves. You will need but one Bud or Eye to each Graft, ſo that you may take ſeveral Grafts from one Branch: You then begin to cut the Scutcheon out of your Branch, in form of a Triangle, leaving in the Middle of it the Eye and its little Branch. This Scutcheon ſhould be neatly raiſed with the Blade of the Grafting-Knife, leaving a little more Thickneſs of Wood at the Place of the Bud, than elſewhere; after which chuſe in your Stock a very ſmooth Place, between two Eyes, and make therein a Croſs-cut, and another upright, joining with it, of the length of about an Inch and a half, and no deeper than the Rind or Bark of the Tree; then holding the Scutcheon ready in your Mouth, by the End of its little Branch, open the Rind of your Stock, where your Cut was made, with the Handle of your Grafting-Knife, and put the Point of your Scutcheon into it, in ſuch manner that it may ſtick very faſt, and that the Sides of the Rind of the Stock may cover all of it but the Bud. This done, take ſome coarſe Yarn, and bind it all cloſe together, as neatly as you can, always leaving out the Bud or Eye. In a Month after you may cut this binding, but without taking it quite off, to give the more free Paſſage to the Sap, which would otherwiſe, if too hard bound, be apt to make ſeveral wild Shoots below the Grafting-Place.

You may put two Scutcheons on the ſame Stock, and cover them with the ſame binding, that if one fails the other may take.

'Tis very ſtrange that the Sap ſhould thus be forced into and produce a Body of another kind, forſaking the firſt, which it has nouriſhed ſeveral Years.

THIS is the uſual Method of grafting all ſorts of Trees, but in Orange-Trees there is one particular Circumſtance, which is the inverting of the Scutcheon, that is to ſay, that this Scutcheon ought to have its Point upwards; obſerving, however, when

when you cut it, that the Eye muſt always have the ſame Poſition, the Bud and the Shoot towards the Sky. The Inciſion upon the Stock ſhould alſo be cut differently, that is, the Croſs-cut below, as a reverſed L, becauſe of the Water which would more eaſily enter at the large Opening, which in other Trees, is uſually made above, and which, for this very Reaſon, in Orange-Trees, is made below; for if the Water get in ever ſo little, it kills the Graft.

SCUTHCEON-GRAFTING is performed in the Month of *May*, with the Bud ſhooting, that is, when the Sap is moving, and then the Branch is to be cut off immediately, to about three Inches above the Graft, that the Sap may be all convey'd to it, and make it ſhoot the more readily: It may alſo be done in the Months of *July*, *Auguſt* and *September*, when 'tis called inoculating; and then the Branch of the Stock is not to be cut till the *May* following, when the Sap is ſtirring again.

THE Grafting of an Orange-Tree, by way of Inarching or Approach, is performed as uſual, without any Difference from other Trees. It is done at either of the Movings of the Sap, that is to ſay, in the Month of *May* or *Auguſt*: You bring to the Stock, the Caſe with another Orange-Tree, the Branch of which is long enough for tying them together, in order to the grafting in this manner. You cut the Head of the Stock, in which you make a Slit for receiving the Branch of the Orange-Tree, whoſe Kind you would have produced: This Branch is to be notched and cleſt along the Middle, till it makes an End of about a Foot long, which is to be ſharpened for putting it into the Middle of the Cleft, in the ſame manner as it is done in Slit-Grafting; this Graft may alſo be put between the Wood and the Bark, when the Stock is pretty old, as in Crown-Grafting, from which it differs nothing but that this is done by a Branch of a Tree, brought to it. This Graft ſhould be bound as faſt as poſſible with coarſe Yarn, to ſecure it againſt the Wind, and the whole ſhould be covered with Wax and a Linnen-Rag, which the *French* call *Swadling* the Graft: Thus it is to continue, till it ſhews it ſelf to have taken, by its vigorous Shoots; when you cut off the Branch near the Grafting-place, which ſhould alſo be covered with green Wax.

This Manner of Grafting is not very agreeable, making but an ill Effect in the Decoration of Gardens, by the Nearneſs of the Caſes, which muſt be always ſet apart.

There muſt be no Bud in the Place of the Approach, there are enough of them all along the Branch.

THE Difference between theſe two Manners of Grafting lies in this, that the Branch of a Tree ought to be but two Years old, for Scutcheon-Grafting; whereas the Tree ſhould be ſtrong and ſomewhat older, for Grafting by Approach.

POMEGRANATES, Myrtles, Laurus-Tinus's and Bays, the Tree of *Judas*, the Baſtard Sena-Tree and the Lentisk, are to be choſen with a fine Stem, and an agreeable well furniſhed round Head. The Branches and Roots ſhould be of a lively Green. Theſe Trees have generally their Earth about them, unleſs you take them from Cuttings or from Layers.

THE Roſe Bay-Tree, the Cherry-Laurel, the *Alexandrian* Laurel, and the Pyracantha make no Stem, their Beauty conſiſts in being well garniſhed from Foot to Head, whether they are in Hedges or in Caſes. The ſame may be ſaid of the Roſe-Trees, Lilachs, Broom, Colutea, Honey-Suckles, Roſemary, Syringas and common Jeſſamines, which are no more than Dwarf-Trees clipt into Balls or Pyramids.

THE Althea, Leonurus, Syturidaca, Cytiſus, the Liguſtrum, the Amomum and the *Spaniſh* Jeſſamine, are to be choſen with a ſmall Stem, about two Foot high, to bear their Head. You ſhould make ſtrict enquiry into their Branches and Roots, to know the Condition they are in, and obſerve the ſame Directions as for Orange-Trees, for the planting them out in Caſes or in Pots, or in the open Ground.

THE beſt and readieſt Way to raiſe all theſe Trees, is to chuſe ſuch as are naturally low and full of Branches at the Foot, and to bury them in the Ground, to the Middle of their Branches, laying down their Shoots on every Side, to make Layers: Thus will theſe become Mother-Roots, to a greater Number, and in leſs time than by any other Way: You may otherwiſe ſlip and ſplit off the Roots that theſe Shrubs naturally put out at their Foot, and raiſe them carefully till they have taken Root, and got ſome Strength. You may make Layers alſo of Branches that you lay down in Caſes, to the Month of *April*, or that you can make paſs through the Hole of a Pot, raiſed to the height of the Branch. Theſe Layers muſt be allowed about ſix Months for ſtriking good Roots: from this Method are excepted the *Spaniſh* Jeſſamine, which is always grafted, the *Spaniſh* Broom, the Colutea, the Amomum,

mum, the Pyracantha, and the Althea Frutex, which are generally raiſed from Seed.

It is eaſy to ſee, as was juſt now mentioned, that their are but few of theſe Trees which you are obliged to graft; Layers and Slips aſſuredly furniſh you with the ſame Species, and like good Children, loſe none of their Mother's Qualities: However, the following are ſuch as you may graft.

Pomegranate-Trees and ſtriped Myrtles are commonly grafted by the Scutcheon or Approach, in order to have a ſtriped Iſſue. The *Spaniſh* and *American* Jeſſamines, making no Shoots by which their Kind can be perpetuated, require to be grafted upon the common Jeſſamine, either by Approach or by Scutcheon, it matters not which; neither can we make Layers of any but the common Jeſſamine, of which we make a great many. To forward the Grafting of the *Spaniſh* Jeſſamine, you ſhould plant Layers of the common Jeſſamine in Pots, a Year beforehand, which will make the Graft take the better, this ſhould be covered with Wax.

Your Stock ſhould be choſen clear, ſmooth and without any Knot, well rooted, and about the Size of one's Little-Finger; it ſhould be cut down to the loweſt Eye, that the Sap being leſs diſperſed, may fill it the more vigorouſly. Roſe-Trees may alſo be grafted; as for Example, when you have a mind to have the *Dutch*, the ſtriped, or the monthly Roſe-Tree, you graft theſe Kinds with a Scutcheon-Graft, upon the common Roſe-Tree.

The Seaſon in which all theſe Trees are in Flower.

You ſhould alſo know the Time in which theſe Trees and Shrubs are in Flower, that you may take the Advantage of planting them in their proper Seaſons, for the Decoration of your Gardens. And as all depends upon Variety, you may obſerve that the Shrubs to be planted in Parterres, are not only of a different Kind, but alſo flower at different Seaſons: To make this Diverſity therefore, you muſt have ſuch as flower in the Spring, in the Summer, in the Autumn, and even in the Winter, while they are in the Green-Houſe.

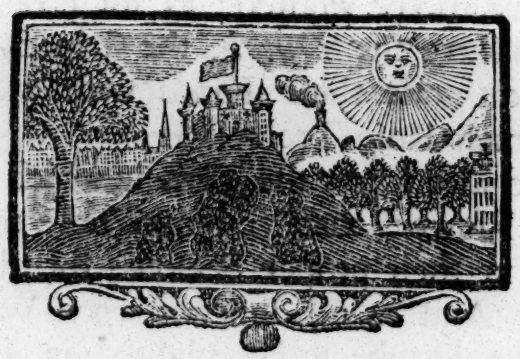
In the Spring you have in Flower the Laurus-Tinus, the *Alexandrian* Laurel, the common Lilach, the Honey-Suckle, the Syringa, the monthly Roſe-Tree, that of *Guelderland*, the *Dutch* hundred-leaved Roſe-Tree, the Roſemary-Tree, the Trifolium, the Jonquil, Jeſſamine, the *Spaniſh* Broom, the Cytiſus, and the Syturidaca.

In

IN the Summer, the Orange-Tree, Citron, Lemon-Tree, and other Kinds are in Flower, as alſo the Pomegranate, Myrtle, Bay-Tree, Roſe-Laurel, the Liguſtrum, common Jeſſamine, the Colutea, the *Perſian* Lilach, the Tree of *Judas*, the monthly Roſe-Tree, and the Baſtard Sena-Tree.

AUTUMN preſents us with the Flowers of the *Spaniſh* and *American* Jeſſamine, the Laurus-Tinus, the Althea-Frutex, the Damask and monthly Roſe-Trees, the Pyracantha, the Amomum, and the Colutea.

THOSE that flower in the Winter, and ſerve to adorn the Green-Houſe, by forming Riſes and Amphitheatres to cover the Walls, are the Orange-Tree, the *Spaniſh* Jeſſamine, the Laurus-Tinus, Lentisk, the Colutea, the Amomum, the Leonurus, and the ſtriped Myrtle, accompanied with ſeveral Plants vivacious and others, as the Piment or Long-Pepper, the Gilly-Flower, the Aloes, the Mourning Storks-Bill, the vivacious Thalaſpic, *&c.*



CHAP.

CHAP. VI.

Of the Culture of Orange-Trees and other Flowering Shrubs, with the Means of recovering thoſe that are out of Order.

BY this time we may ſufficiently diſcover the Miſtake we were under, about the Difficulty of managing Orange-Trees, and other flowering Shrubs, of which ſome People have formed ſuch a Chimæra, to make themſelves thought more knowing. Theſe Trees are raiſed very well in * *England*, *Holland*, *Swedeland*, and other Northern Countries, where the Cold is greater, and holds longer than in *France*; it is therefore eaſier for us to keep them in good order, than in thoſe Climates, perſuaded as we are, that a general Culture agrees with all the Species of them.

* *In theſe Countries they muſt have their Summer as well as Winter Green-Houſes.*

MANY things contribute to the Preſervation and keeping of Orange-Trees; a good Green-Houſe, a fit Compoſition of Earth, re-caſing them, a proper Expoſition in Gardens, the manner of pruning them, their Watering, the Seaſon of putting them in and taking them out of the Houſe; and laſtly, the Manner of ſecuring them from the Inſects which annoy them, of all which we ſhall ſpeak particularly.

Of the Qualities of the Green-Houſe.

IT may be truly ſaid, that a good Green-houſe is the moſt eſſential thing for the preſervation of Orange-Trees and others, which the Cold obliges you to houſe. In the firſt place, it ought to be expoſed to the South or Eaſt, never building it to the Weſt or North, on account of the little Heat and ill Winds which come from thoſe Quarters. The Bigneſs of it ſhould be proportioned to the Number of Trees you have to

put

put into it, that they may not be crouded one upon another. When they are a little raiſed, the leſſer Trees may be ſet between the greater upon Benches or Steps of Wood, which will ſave much of the length of the Building: They ought always to be raiſed ſo as that the Trees may not ſuffer or be diſturbed when they are in their place, or when they are carrying in or out. The Front of the Green-houſe upon the beſt Expoſition ſhould have a large Door, and ſeveral high Windows to admit the Sun when the Weather is good. And theſe ſhould have three Fences one behind another, to hinder the Cold from penetrating; the inner one may be of Paper paſted on both ſides; on the outſide may be Shutters of Wood, and between theſe a ſaſh Window well glazed, all ſhutting very cloſe, and beſides well ſtuffed with Hay or Straw in great Froſts. The Walls ſhould be built ſolid about two foot and a half in Thickneſs, or at leaſt two foot, and the North ſide thicker than the others, as moſt to be feared for the Froſt, and they ſhould all be covered or lined with Straw Matts. As the Damps and Cold may come as well from the Roof above, or from the Floor beneath, as from the Sides, great Care ſhould be taken of the covering of the Green-Houſe: if it be a coved Ceiling without Corn-lofts or the like over it, the Space between the Ceiling and Tiling ſhould be filled in with a Mixture of Clay and Straw; and if there are Chambers or Granarys over head, they ſhould be filled with Hay, and the Windows be kept cloſe ſhut. As to the Floor, it ought to be very dry, and rammed in with Maſons Duſt or Salt-peter for a foot in Height; you may keep it ſomewhat higher, or at leaſt upon the Level with the Ground without, for when you go down into it, beſides the Inconvenience you are under in the Carriage of your Trees, it keeps the bottom of your Walls continually damp. For this reaſon all ſubterraneous Green-Houſes ſhould be ſet aſide as ſo many Cellars, foraſmuch as they can never have the advantage of the Sun-Beams ſo requiſite in this Caſe. Such Green-Houſes as ſtand with their Backs againſt a Hill, or are under a vaulted Terraſs, and have their Front well expoſed to the Sun, are very good.

De la Bauge.

As the Green-Houſe in the King's Garden.

As thoſe of Verſailles *and* Meudon.

A s a Remedy againſt the want of Heat in theſe Climates, we make a Mixture of Earth ſuitable to the Nature of Orange-Trees, which being put up in a Caſe or Cheſt, open

The Compoſition of Earth.

on all Sides to the Heat of the Sun, acquires a Degree of Heat, near like that which theſe Trees naturally have in hot Countries, where they always remain planted in it.

THE beſt Compoſition is one third of new ſtrong fat Earth, that is not Clay, which abounding with Salts, will cauſe the Tree to put out fine Shoots; one third of * Sheeps-Dung which has lain three or four Years rotting, to give warmth to the Earth, and with theſe mix one third of Mold taken from ſome old Bed to make it light and penetrable. All which ſhould be run through the Screen to take out the Stones. This is a better mixture than that of Pond-mud, Pigeons-dung, Husks of Grapes, *&c.* and is not only good for Orange-Trees, but alſo for all others that are put into Caſes, and for ſuch Flowers as are ſet in Pots of *Dutch*-Ware.

* *If this Dung were leſs rotten, it would be too hot.*

YOU are neceſſarily obliged to new-caſe an Orange-Tree, when its old Caſe is good for nothing, or when it is too little for its Roots, or elſe when the Tree acts not vigorouſly, the Earth being great part or wholly waſted, and ſo the Tree deprived of the Salts neceſſary for its Vegetation. *Recaſing.*

IF the Earth be but half worn, and the Caſe be ſo good as to laſt a Year or more, you may content your ſelf with helping the Orange-Tree by giving it a half-caſing, that is, to take out with the diſplanting Scoop all the exhauſted Earth about the Clod, taking care not to hurt the Roots, and filling it up immediately with freſh Mold, which ſhould be well ſettled down. But if the Earth be quite worn out, and the Caſe be rotten, or too ſmall for the Size of your Tree, you muſt new-caſe it in the Manner here taught.

YOU ſhould chuſe a Caſe proportionable to the Size of the Tree, made of Oak; the Inſide of it ſhould be laid over with Pitch, and the Outſide ſhould have two Coats of painting with Oil and Colour, either a Green or Yellow, that it may laſt the longer. This new Caſe ſhould have a Bed of old Rubbiſh laid at the bottom of it, as well to hinder the Roots from running down and getting through the bottom of the Cheſt, as to preſerve it from rotting, by giving a Paſſage to what is ſuperfluous upon Waterings. After this, fill the Caſe half full with your prepared Earth, ſettling it down by a Man's ſtepping in and treading it juſt for a moment; then throw in a little looſe Earth at top, whereon to ſet the Clod of your Orange-

Caſes ſhould always be rather too little than too big, that the Roots being ſomewhat contracted, the Head may get Strength and grow the finer.

Tree, which is to be taken out of its old Caſe by breaking down all the Sides of it. You ſhould take off about half the Clod all round and on the under-ſide, and cut off the Roots and Stubs you meet with, for fear of Rottenneſs; plant this Clod exactly in the middle of the Caſe, and as upright as your Eye can ſet it, keeping the Tree three Inches above the Edges of the Caſe, for the Waterings and Sinking of the Ground will lower it faſt enough. The Earth may be kept up to this Height with Boards or Slabs of Wood till it be ſunk down to the Level of the Caſe; and Care ſhould be taken to preſs it in well about the Clod, to ſecure the Tree againſt the Winds: and laſtly, make a little circular Trench about the Foot of the Stem, to receive the Water that you are to pour upon it as ſoon as it is planted, for the quicker Settling and Sinking of the Ground.

NEW-CASING is generally done when the Trees are taken out of the Green-Houſe, before they make their great Shoot, and never at the End of Autumn, becauſe of the Approach of Winter, unleſs there be an unavoidable Neceſſity.

Their Expoſition in Gardens.

A GREEN-HOUSE is very improperly called by ſome an Orangery, the latter is no other than the Name of that place in a Garden where we ſet out our Cheſts of Orange-Trees in the Summer, as a Cherry-Walk is a place lined with Cherry-Trees. The Expoſition of Orange-Trees in Gardens requires ſome Skill, 'tis certain that if they are ill placed and too much expoſed to the Wind, they will be ſoon ſpoiled; they ſhould eſpecially be well ſcreened from the North-Winds by ſome Building, by a Wood, a thick Hedge, or elſe by ſome Wall, without depriving them however of the Sun, which is ſo very neceſſary to them.

Their Diſpoſal.

TREES in Caſes are ſet in Rows by a Line, as well thoſe that are detached as thoſe that are ſet in the Borders of Parterres of Orangery between the Yews. In the turnings you ſet them by your Eye as well as you can, unleſs you can place them by a Line from ſome Center. The Caſes ſhould be raiſed upon ſome ſquare Tiles or Bricks under their bottoms, to keep them from ſinking too low in the Ground and from rotting: The uſual way is to put a ſmall Caſe between two large ones, for filling the upper part, and for Beauty's ſake, you may intermix Pots and Vaſes filled with Shrubs, and the fine

Flowers

Flowers of the Seaſon: The good Taſte of a Gardener is ſeen in this Decoration, where the Regularity ſhould not hinder that agreeable Confuſion which will make them look to be a great many more in Number than really they are.

The Manner of cutting or pruning.

In cutting an Orange-Tree, you ought to conſider nothing but a handſome Figure, a very round Head, Branches well placed and equally filled on all ſides, without much ſollicitude as to its Flowers or Fruit, which renders the pruning of Orange-Trees much eaſier than that of other Fruit-Trees, where more Fruit than Wood is required, or one with the other alike. Theſe Trees ſhould be cut at their taking out of the Green-Houſe a little before their great Shoot, that the remaining Branches may have the advantage of all the Sap: Their Head ought to be proportionable to the Stem, to the Thickneſs of the Foot and the Bigneſs of the Caſe; they are to be kept in Balls, by clipping all the hanging Branches and ſuch as ſtraggle from this agreeable Contour. It ſhould not be confuſed and too much loaded with Wood, ſo that all the inner Branches may be eaſily diſcerned; when a Tree has a Gap in its Roundneſs, you may bring down ſome neighbouring old Branch, which in a little time will fill up the Place with the Shoots it will make, or elſe you may keep ſome at their length without cutting any thing to make them come forward to the Side. Above all, you ſhould ſtrive to raiſe the Stem as high as you can, cutting off the Rows of the under Branches very near the Body in the ſhape of a Deer's Foot, for the Water to run off; all theſe Wounds ſhould be covered with green Wax to prevent the Heat of the Sun from ſpoiling the Tree.

You ought likewiſe to pinch off the Buds of Orange-Trees at the two Seaſons of the Sap's Riſe, nipping away with your Fingers ſuch Shoots as are weak and * ill placed; as alſo thoſe that put out too much, ſo that there ſhould remain but one vigorous Sprig to each Shoot. In performing this Work you need not be at all uneaſy at throwing away a great many Flowers, the Tree will bear the better, and ſhoot more vigorouſly. The too great Quantity of Flowers and Fruit often makes a Tree barren, ſo that without pinching, you are obliged to take away abundance of Flowers, and to leave no more Fruit to knit than is proper for the Size of the Tree, five

* *The* French *call theſe Shoots,* Toupillons *or little Tufts, which are apt to attract the Bugs.*

or ſix Oranges on the leſſer Trees, and about a dozen on the larger; you ſhould obſerve not to pinch thoſe Trees that are headed, the firſt Year, becauſe there is need enough of all the Length of the Branches, for the ſpeedy forming of a fine Head.

Their Watering.

ORANGE-TREES require but very little Water, but they ſhould have it in proper time; it is better to leave them a little thirſty, than to drown them too often. You may know a Tree has need of watering, when its Leaves are flabby, hang down or wither; you may diſcover it alſo by the Earth's chopping, but you ſhould never ſtay to ſuch Extremity. Orange-Trees may be water'd moderately once a Week, unleſs in the time of their putting-out and flowering, which is in *May* and *June*, when you may refreſh them twice a week; wild Stocks ſhould be water'd not ſo often, if you would have them flower. When you have carried your Orange-Trees into the Green-Houſe, and ſet them in their Places, you ſhould give them a good large ſoaking, as well to ſettle the Stem ſhaken in the carrying, as that this Water muſt ſerve for all the Winter. In the Month of *April* you may again refreſh thoſe Trees that are fading, at ſuch time as you open the Doors and Windows of the Green-Houſe. As ſoon as the Orange-Trees are taken out, and ſet in their Places in the Garden, you ſhould give them ſuch another large watering as you did when they were carried into the Green-Houſe; you ſhould alſo make uſe of Iron Pins, to pierce the Clod in ſeveral Places, that the Water may ſoak the deeper, for reviving all the Roots; in great Droughts it will not be amiſs to water the Head of the Tree, to recover its Verdure, and you ſhould ſtir the Ground about them a little every Month, except the time they are in the Green-Houſe.

You may make an Orange-Tree flower in its Auguſt *Shoot, in ſtrewing an Inch thickneſs of Bed-Mold upon the Caſe, and watering it often; but by this you run the hazard of making the Tree barren.*

In great Orangerys, as at Verſailles, *there are Machines made on purpoſe for watering the great Caſes, by means of a Cask of Water raiſed as high as their Heads, which by two leathern Pipes waters the Caſes on both ſides the Alley; which is more convenient than to be done by Watering-Pots.*

THE fitteſt Seaſon for putting Orange-Trees into the Green-Houſe, is the middle of *October*, when the Nights and Mornings begin to be cold, and threaten Froſts that would ſpoil theſe fine Trees. The Time for taking them out is uſually the Middle of *May*, when the Froſts are gone; ſo that Orange-Trees are ſeven Months within doors, and five without; but the Clemency of the Seaſon ſhould be your Rule for carrying them in and taking them out. Sometimes when the Mornings are cool, and ſubject to White-Froſts in

The Time of putting them into the Green-Houſe and taking them out.

the Middle of *May*, it will be proper to ſtay a Week longer before you bring them out, to prevent Diſaſters; and when there is a fine Seaſon in *October*, you may keep them out of their Priſon ſome days longer. You then bring your Orange-Trees near the Green-Houſe, for the putting them more readily into it, upon the firſt cold Weather. In wet Years, you may bring your Orange-Trees out more early than in dry and windy Seaſons, as in Gardens that lie low and marſhy, it ſhould be later before they are brought out, than in thoſe that are upon higher Ground, where the Wind diſſipates the Froſt: All theſe things muſt be left to the Diſcretion of the Gardeners.

You ſhould ever obſerve to houſe and bring out your Orange-Trees in fair Weather, and as ſoon as they are ſet in the Green-Houſe, you ſhould not ſhut up the Doors and Windows, but leave them open till the firſt Froſts come on, that the Orange-Trees taken out of the open Air, may not be ſtifled at once; and in taking them out of the Houſe, they ſhould be uſed to the Air by little and little, by opening the Windows and Doors in the beginning of *April*; for without this, ſo ſudden a Change may do them a great deal of hurt.

Their Carrying.

Orange-Trees of a ſmall Size may be carried upon Hand-Barrows or Sledges, or two Men may carry them eaſily by ſtrong Cords faſtened to the Hooks that clip the four Poſts of the Caſe: The great Trees are ſet upon low Carriages drawn by Horſes.

The Method of ordering Orange-Trees in the Green-Houſe.

The Manner of ordering Trees in the Green-Houſe, regards principally the artificial Heat, to which we muſt have recourſe for keeping out the exceſſive Colds that may happen, be the Green-Houſe ever ſo good, and the Doors and Windows ever ſo well ſtopped: This Fire, however, muſt be as little and as ſlow as poſſible, a natural Heat being always beſt for the Trees. You may know when 'tis neceſſary to make a Fire in it, by ſetting little Mugs full of Water in ſeveral Parts of the Green-Houſe, eſpecially againſt the Doors and Windows; you may put ſome of them alſo upon the Edges of the Caſes: By theſe you may find the Degree of the Cold; if the Water only thickens, without freezing, you need make no Fire; but if it freezes and be wholly coagulated,

gulated, you ſhould then keep a continual Fire the whole time of the Weather's continuing ſo.

THIS Heat ſhould be but moderate, for too much Fire is very hurtful to Orange-Trees; the difficulty lies in finding a Heat equal and temperate, without making much Smoak, which cauſes the Leaves to fall off; Stoves and Iron Pans are generally made uſe of, in which Coal is burnt, being well lighted before it is brought into the Green-Houſe. Theſe Brazeers are ſet at the Entrance of the Door, and at the Ends and in the Middle of the Alleys between the Benches, taking care to ſuffer none to ſtand under the Boughs of any Orange-Tree, which would aſſuredly ſtrip it. Others diſapproving of the Irregularity of the Coal-Fire, which is at firſt very hot, and afterwards very weak, and may, by its Smoak, dry up the Moiſture of the Sap, ſo neceſſary to the Preſervation of the Leaves, employ covered Stoves, which they call *German* Stoves, which carry their Smoak out of doors, by the help of a Braſs Funnel: Theſe are kept by a moderate Fire of Wood, and by an Experiment how long a certain Quantity of Wood will laſt, they are renew'd without interruption. You may alſo make uſe of Lamps hung up to the Ceiling, in the Middle and at the Corners of the Green Houſe, eſpecially near the Doors and Windows, where the Cold uſually comes in. The warmth which theſe afford, is gentle, conſtantly equal, and uniform; you light them again at a certain Hour, without fear of any Intermiſſion, by trying how long one Lamp will laſt, which gives you a Rule to know when they will all be out: You may put more or leſs of theſe Lamps, in proportion to the Size of the Green-Houſe, and you ſhould hang them pretty high, for fear their Smoak ſhould damage any Tree.

We ſeldom make any Fire in vaulted Green-Houſes under Terraſſes, as at Verſailles *and* Meudon; *they are warm enough of themſelves, when all is ſhut. They never light their Lamps in theſe but in very great Froſts. In thoſe of* St. Cloud *and* Sceaux *they make uſe of Coal Fires, becauſe the Green-Houſes are Gallerys upon the Level of the Ground.*

It is certain, that the Fire of Lamps is more equal than that of lighted Coal; but as it is not, however, without its Smoak, the *German* Stoves, kept with a moderate Wood Fire, ſeem to be the moſt preferable, and are moſt in uſe in *England*, *Holland*, *Sweden* and *Germany*.

YOU ſhould take care not to ſet your Orange-Trees very near the Walls, as well becauſe of the Froſt, as for the Conveniency of viſiting and examining them from time to time; you may ſet them in Rows, by ſtraining a Line, and raiſe them

them upon ſome Benches or Scantlings of Timber, for fear of the Damps; Pomegranate-Trees and Laurels may be ſet againſt the Walls.

In great Rains and Thaws, as the Weather is very mild, you ſhould take care to open ſome Windows, to give your Trees air; you may likewiſe give ſuch Trees as want it a little Water, as alſo the Flowers that are houſed, which may be ſet abroad for ſome Hours.

As an Orange-Tree naturally requires a great deal of Neatneſs, as well in its Leaves, as in its Wood, you muſt, before you take it out, cleanſe with ſmall Bruſhes, all its Boughs and Leaves, from the Eggs of Inſects, Spiders Webs and other Filth, which is very eſſential to their Preſervation.

The Way to keep them from Inſects.

'Tis not ſufficient to have guarded againſt the Cold and Winds, which hurt Orange-Trees, unleſs we ſhew the way of ſecuring them againſt thoſe Inſects that attack them, and do them conſiderable Miſchief; ſuch as *Bugs, Piſmires and Ear-Wigs.

*Punaiſes.

Bugs of themſelves do no great Injury to Orange-Trees, but as they make them ſlovenly by the Neſts of Eggs which they lay in Autumn, upon the diſordered Branches that they meet with in flying; theſe look at firſt like ſmall red Spots, but coming in the Spring-time to the Bigneſs of a Lentil, they are hatched and ſo multiply to great Numbers, which again lay other Eggs. If great Care be taken to cut away the uſeleſs Wood in the Head of an Orange-Tree, and to cleanſe all its Branches thorowly, the Bugs will ſcarce make any Filth upon it.

Ants or Piſmires are drawn to Orange-Trees by nothing but the Neſts of Bugs Eggs; ſo that if theſe are careſully deſtroyed, you are ſecured from the Perſecution of theſe Inſects, which is the beſt Remedy; you may likewiſe tie Cotton about the Stem of the Tree, or rub it with Chalk, which, ſome ſay, will prevent their running up. Ants eat the Orange-Flowers, and leave Heaps of Naſtineſs upon the Leaves.

Ear-Wigs are the moſt difficult Things to deſtroy, and often peck and gnaw all the Leaves of an Orange-Tree. They are taken in Coffins of Paper placed about ſeveral Parts of the Tree; you may alſo ſet ſome ſmall Troughs of Earth, Lead or Tin, full of Water, about each Foot of the Cheſt, to

catch

catch them in, which will hinder theſe Inſects, as well as Piſmires, from getting up the Sides of it. Some make ſmall round Veſſels of two Pieces, which meet together about the Stem of the Tree, ſo as to clip it, and leave no Space between, after they have ſtuffed in ſome Yarn, Cotton, or Moſs; theſe they fill with Water, and when the Ear-Wig, who is naturally afraid of Water, comes near it, he goes away as he came, without doing any hurt.

The Culture of other Trees.

POMEGRANATE-TREES, Laurels, Myrtles, Jeſſamines, *&c.* are to be managed in the ſame manner as Orange-Trees; the bringing up of which may ſerve as a Model for all Trees that are put into Cheſts or Pots, with very little difference, which I am going to mention.

THE Pomegranate-Tree requires more Nouriſhment, and a more ſubſtantial Earth than the Orange-Tree; you may put one half of good untried Earth, and the other half of * Bed-Mold, and this will hinder its Flowers from falling ſo faſt: It wants a great deal of watering, as once in two Days, and ſhould have its Earth often ſtirred; beſides which, it ſhould be new caſed every two Years, and on the upper Part of the Caſe you may ſtrew two or three Inches of Bed-Mold; its Head ought to be round and very tufted, without any other Caution in the Pruning, than to pinch off thoſe Branches that put out too far.

* Terreau, *i.e. Dung ſo conſumed as to be reduced to Mold.*

THE Myrtle has nothing in it particular, but that it requires more Water, and a little more looking after than the Orange-Tree, being of a much more tender Nature.

BAY-TREES, Cherry-Laurels, and Roſe-Laurels, are always thirſty, you can never give them too much Water; their Earth ſhould be changed from time to time, and their Pruning is as uſual.

JESSAMINES in general require two Thirds of good Earth, and one Third of *Mold; *Spaniſh* Jeſſamines ſhould be pruned every Year, at the End of *March*, cutting all the Branches to one Eye, next the Place where they ſhoot from the Stem, as is done in Oziers; this is to ſtrengthen it from the Bottom, and make it put out more vigorouſly: You may water it amply and often.

* Terreau, *as before.*

ROSE-TREES delight much in a light and gravelly, or ſandy Ground; their Culture is as common, except the monthly

ly Roſe-Tree, which flowers ſeven or eight Months in the Year, and demands ſome particular Care, without which it will bear but once a Year, as the others. This Care conſiſts for inſtance in cutting it down to the Ground in *September*, to have new Shoots at Spring; they are alſo to be pruned at the End of *March*, by taking the new Shoots off to the Eyes next the Stem; laſtly, they are to be pruned after each moving of the Sap, cutting the Branches below the Knots where the Flowers were, after the Flowers are gone. 'Tis by this Abundance of cutting, that this Roſe-Tree is kept always in flower; and to help it the more, you ſhould ſtrew an Inch depth of Bed-mold at the foot of the Tree, and water it over, to waſh the Salts down to the Roots.

THE Broom, Althea, Honey-Suckle, Trifolium, Syringa, *&c.* require a natural Earth, often watered and kept ſtirred; they are clipt into Hedges, Dwarf-Trees or Balls: As for the Leonurus, Amomum, Colutea and Lentisk, they are more delicate, and require the ſame Earth and Culture as Orange-Trees.

YOU ſhould obſerve in cutting all theſe Trees for keeping them round, to take out the waſted and ill-placed Wood, as you do that which riſes above the Head, and ſhoots out on every Side.

THESE Trees may be eaſily put into Pots, that is, the ſmall ones, for the Roots of the larger would be too much confined and grow crooked in Pots and Vaſes: The putting them into Pots is done in the ſame manner as the putting them into Caſes; but in Places where they are expoſed to the Wind, they ſhould be ſecured from being blown down, by Iron-Wires fixed to Pegs drove into the Ground. Trees that are put into Pots, ſhould be watered much oftner than thoſe in Caſes, the Reaſon of which is very plain; Pots being thinner are more eaſily penetrated by the Rays of the Sun, and conſequently the Earth is ſooner dried up and clodded. They ſhould be put into the Houſe upon the firſt Froſts as well as the Caſes, without which the Weather would ſplit them.

THE Expoſition of theſe Trees ſhould be the ſame as that of the Orange-Trees, however you may ſet them any where; and as they ſuffer leſs by the bad Winds, you may put them into the Houſe a little later, and bring them out a little ſooner than you do the Orange-Trees, taking care to water them

when they begin to fade. They are not perceived to be ſubject to Bugs or Vermin, however 'tis good to keep them from Duſt and Naſtineſs.

SUCH Trees as ſtand out all the Winter, and are ſomewhat tender, ſhould be covered with Litter or Straw-Matts.

The Way of recovering the Infirm.

AFTER having ſpoken ſo much of Trees that are in Health, and which are ſuppoſed to be ſo by the good Management of them, there remains nothing more than to ſhew how to cure thoſe that are Sickly, and to recover and confirm them in their former State of Beauty; which in the Buſineſs of Orange-Trees is a Point of great Difficulty and Importance, and requires a good deal of Skill to find out the true Cauſe of their Diſorder.

THE Diſtempers of Orange-Trees proceed from a bad Green-houſe, a defective Recaſing or an exhauſted Earth, from ſome rotten Roots, too much Heat, too much Cold, or too much Water; from bad Pruning, from Inſects and Vermin that ſtrip them; or laſtly, from Winds and Hail that break their Boughs and blaſt their Leaves.

As ſoon as you ſee an Orange-Tree languiſhing, you ſhould take it away from the others, and ſet it aſide in a * Place ſheltered from the Sun, which would preſently burn up and turn its new Shoots yellow. There it ſhould remain till it be perfectly recovered, which ſometimes is a good while: Theſe ſick Trees require much more Care and Attention than thoſe that are in Health.

* *We call this Place an Infirmary.*

THERE is no other Remedy againſt a bad Green-houſe but to build another, for putting the ſick Orange-Trees into, the following Year: As to deficient Recaſing, no time ſhould be loſt in putting it into a new Caſe, which is the beſt way to recover it.

THE Earth is the chiefeſt Thing to be examined, as the Foundation of all: if it appears entirely exhauſted, and worn out, the Tree ſhould be wholly taken out of its Caſe; but if it looks to be pretty good, it will be ſufficient to give it a Half-caſing. In taking the Tree out of its Caſe, you ſhould mind the Roots, and if you find any of them dead or rotten, cut them off to the Quick, then ſtrip it of half its Clod, taking it in cloſer upon the Sides and under Part, to force it to put out new Roots that may recover its Head.

THE

THE making of too much Fire, the Cold the Trees have ſuffered upon taking them out of the Houſe too ſoon, or keeping them out too late, the too great Burden of Wood left on them, the Naſtineſs of the Branches, and their being peſtered with Inſects and Vermin, are evident Marks of the Ignorance of him who looks after them. All theſe Accidents, if they do not quite ſpoil a Tree, they kill at leaſt part of its Branches; ſo that you are obliged to cut off its Head. When there is only a Neceſſity to take away ſome dead or withered Branches, they ſhould be cut off ſhort, juſt to the Quick; and leave no more than is proportionable to the Foot, for the Charge ought to be as near as poſſible equal to the Nouriſhment.

YOU ſhould make no ſcruple to cut away at once all that's needful; that you may have no Occaſion to repeat this Work, the Years following, the Tree will thrive the better and recover it ſelf the ſooner. When you come to the Branches next the Stem, you ſhould endeavour to ſave the largeſt, and cut away the ſmalleſt; though they ſhould have ſome Leaves and Flowers upon them, even to the leaving the Tree quite naked in order to help it. When an Orange-Tree that is weak and languiſhing puts out ſtrong Shoots even to the middle of its old Branches and near its Trunk, you ſhould take off theſe Sorts of Branches filled with weak Shoots down to this Place, for making advantage of the Strength the Tree ſhews it ſelf to have here. Theſe Shoots are perhaps yellow and drooping at firſt, but they will ſoon grow green and vigorous, when the Roots have Strength ſufficient to nouriſh them.

ABOVE all, you ſhould take care to keep the new Branches very clean from all Filth and Inſects, to take off the Flowers, and to ſuffer no Fruit to knit upon them: What can we require of Trees that are ſickly, more than Wood and Leaves? 'tis enough if they anſwer the Pains we take about them.

FOR Branches that are broken by the Winds, and Leaves that are blaſted by the Hail, the only Remedy is to pluck off the Leaves, and cut away the broken Branches: It is needleſs to new-caſe an Orange-Tree on this account, that has received no damage in its Roots; if it has been ſhaken, you may fix it again, by filling up the Clefts with new Earth. A good Diſpoſition in the Garden, ſcreens a Tree in good meaſure from theſe Accidents.

IN the Recovery of theſe ſick Trees, I adviſe you to have patience; an Orange-Tree is ſometimes two or three Years without putting out Roots or Branches, though carefully managed, new-caſed with good Earth, and its Caſe neither too big nor too little. If the Tree look green in its Stem and branches, you need not change it, in time it may recover from this Lethargy, and make more vigorous Shoots afterwards than another Tree. But if an Orange-Tree ſtands in its Caſe four or five Years without putting out any Thing but ſome yellow Leaves, it is abſolutely requiſite to change its Earth the Year following, without ſtaying 'till it be downright Sick before you do it; which ſhould be prevented, leſt your Orange-Tree loſe all its Leaves the Year it is new-caſed, as uſually happens; whereas this Work done in time keeps off its future Malady.

POMEGRANATES, Jeſſamines, Laurels, and the other Trees before-mentioned, have no peculiar Diſtemper, but what relates to thoſe of the Orange-Tree; ſo that what has been ſaid of this, may be applied to them.

I have nothing more to add that is material to the Culture of theſe Trees; this Treatiſe, though ſhort, containing every thing that I think concerns them. In diſcourſing of Flowers, which is my next Buſineſs, I ſhall endeavour to keep to the ſame Brevity, and the like Exactneſs in Particulars.

CHAP.

CHAP. VII.

Of the Flowers generally made uſe of in the Borders of Parterres, with the Manner of Sowing, Managing, and Propagating them.

I Come now to the Flowers which adorn the Borders of Parterres in every Seaſon, and in treating of them ſhall endeavour to draw Men off from the Errors and Whimſies of the greateſt part of Floriſts, which carried the * Eaſtern Nations even into Idolatry. It is well known that the Love they bore to their Roots, exceeded all that can be ſaid of it: This Heat is at preſent ſomewhat abated in *France*, but continues ſtill very violent in the *Low Countries*.

* O *Sanctas Gentes quibus hæc naſcuntur in hortis Numina!* Juvenal Sat. 15. v. 10. *The old* Egyptians *adored their Lentils, their Beans and their Onions*. Diod. Sic. L. 1.

CURIOSITY in the Buſineſs of Flowers runs chiefly upon Tulips, Anemones, Ranunculus's, Auricula's and Pinks. The Curious have ſcarce any Value for our other Flowers, which tho' leſs varied in their Kinds, come not at all behind them in the Livelineſs of their Colours, the Beauty of their Shape, the Fragrancy of their Smell, or in their Duration and Agreeableneſs in the Furniture of our Gardens: But they are Tulips, Anemones, *&c.* which require ſo much Care and Pains for the Pleaſure of ſeeing them laſt twelve or fifteen Days at moſt. Could you fancy to your ſelf a Man of deep Thought, always uneaſy, always fearful, riſing out of Bed in a froſty Night to cover his Flowers, digging, watering and weeding his Borders continually, ſcreening his Earth very fine, and preparing it in a different manner for each Species, keeping a written Memorial of the Order of his Borders, with the Names and Draughts of every Flower, who as ſoon as their Bloom is over,

over, takes up their Roots, and puts them into Boxes and Drawers each apart or wrapt up in Paper; who, above all, keeps his Flowers as his Treaſure, and lets no body come near them but with a jealous Eye; you would have a true Idea of a great Floriſt. 'Tis by theſe means the Curious come up to ſuch a Diſtraction about their Flowers, that they have valued one Tulip-Root at more than a hundred Piſtols; and to keep their fine Roots to themſelves, they have often the Malice to ſtamp their Suckers to pieces.

Curious and profeſt Floriſts will be diſappointed here, in the Reaſons brought to oppoſe their Doctrine, and in the Plainneſs of this Culture ſo contrary to theirs.

FOR avoiding this Evil as much as poſſible, I ſhall lay down ſure Rules and a plain Culture, oppoſite to all their great Myſteries, that without ſo much Pains you may have fine Flowers in every Seaſon, and your Borders filled without Interruption for eight Months in the Year; and this is the only Thing needful in great Parterres, which would coſt a great deal, and be very chargeable to keep, if they wanted as much looking after as Floriſts beſtow on their Beds. An Earth a little meliorated, an Expoſition ſomewhat ſheltered, and a general Care, are all that is here required, and ſufficient to make every Thing ſucceed to your wiſh.

I ſhall alſo endeavour as much as poſſible to clear up abundance of whimſical Names given to the ſame Flower, and which are mentioned ſeparately in the * Catalogues of Floriſts. Theſe great Names are of no uſe but to confound moſt People; Nature is ſo various in her Productions, that to each new Kind ſhe forms, every one thinks himſelf obliged to give a new Name, oftentimes his own, a little Vanity contributing more to this Cuſtom than any Neceſſity. Thus this abundance of Names is every day increaſing among the Curious to ſuch a degree, that they often know a Flower under one Name, which they are Strangers to under another.

* *An anonymous Treatiſe of Flowers at the End of the 2d Vol. of* De la Quintinie.
The Culture of Flowers by Morin.
The Flower and Hiſtorical Gardener.
Treatiſe of the manner of ſowing Flowers, &c.

FLOWERS are produced from two Things, Plants or Roots and from Bulbs; nevertheleſs they come originally from Seed, though Nature has given them another way of multiplying by their Suckers, or by the Layers, Sets and Cuttings taken from the Foot of them; and 'tis left to the Floriſt's Diſcretion to make uſe of which of theſe ſeveral Ways he pleaſes.

PLANTS are diſtinguiſhed into the Fibrous or Stringy, the Bulbous and the Woody.

THE

THE Fibrous have no other than ſmall ſtringy Roots, as the Amaranthus, Balſam-Apple, *&c.*

THE Bulbous have their Roots compoſed of many Caſes or Skins wrapt up one within another, as the Tulip, Junquil, *&c.*

THE Woody have their Roots, their Boughs and their Stem of a Conſiſtence hard enough to make Wood, as the Trees and Shrubs laſt ſpoken of.

FIBROUS Plants are divided into the Vivacious or Perennial, and the Annual: the Vivacious or Perennial Plants are ſuch as get little Injury by the Froſt, but will keep ſome Years; the Annual are thoſe which laſt but one Year, not being able through their Tenderneſs to ſtand the Rigour of the Winter.

BULBOUS Plants are not diſtinguiſhed into ſo many Kinds; this Name being general to all, except ſome whoſe Root is ſo particular, that it reſembles the Fangs or Claws of Animals; and from hence the Fangs of Anemones, and the Claws of the Ranunculus take their Name.

BEFORE I enter upon a more particular Deſcription of Plants and Bulbous-Roots, it is proper to ſpeak of the different Places where Flowers are to be raiſed, and the Compoſition of Earth that is fit for them, without regard to the Overnicety of Floriſts about the Matter.

FLOWERS are raiſed upon hot Beds, Flower-Beds, in Pots, and in the Borders of Parterres.

A BORDER in general is a great Length of Ground, narrow and uſually edged with Box, the Earth of which is kept turned and raiſed like an Aſs's or Carp's-back, into which are brought the Flowers that are raiſed in hot Beds with their Clod or Earth about them. The ſeveral Differences of theſe are ſhewn in the Chapter of Parterres, Part I.

The Bed and the Border are often confounded together.

THE Flower-Bed is likewiſe of a long Extent, flat and narrow, without any Edging or Border but that of the Path; the Earth of them ſhould be turned and kept equally raiſed, throughout the whole, two or three Inches above the Paths and Alleys as the Beds in a Kitchen-Garden.

Floriſts ſurround their Beds with Brick, flat Stone, or Wood, not willing to plant Box, which would dry the Ground, and bring Dogs-Graſs:

THE hot Bed is very different from theſe, being made up with large Litter or Horſe-dung well mixed and laid together in a Heap; on the Top of which is ſpread half a Foot thick-

They alſo lay a Bed of Rubbiſh at the Bottom of their Earth, to hinder their Roots from running deep and loſing themſelves; this they ſay prevents the Mole-Tracks likewiſe. What Slavery is here!

neſs

neſs of Bed-Mold, the whole riſing to the Height of three or four Foot above the Superficies of the Ground; their Breadth is generally between four and five Foot, and their Length proportionable, as that of the Flower-Bed ought likewiſe to be.

There are alſo Beds buried in the Ground, which the French *call* Des Couches Sourdes, *but they are never ſo hot as theſe.*

THE Pots which I here mean, are generally of red Earth, very different from thoſe of *Dutch*-Ware, which contribute to the Decoration of Gardens, as has been obſerved in the firſt Part: theſe, when filled with good Earth, ſerve for the raiſing the Roots of Tulips, Anemones, Tuberoſes and ſuch Flowers of the Seaſon as are kept in reſerve for furniſhing the vacant places of Borders: They might indeed be ſupplied by ſowing the Seed, but we rather chuſe to raiſe the Flowers in their Clod upon a hot Bed, and to put them into Pots when they are ſomewhat grown. Theſe Pots ſerve likewiſe for putting the Flowers and Plants into the Green-Houſe during the Winter, that cannot bear the Cold.

BEFORE you plant or ſow any thing in Pots, you ſhould lay ſome Gravel or Rubbiſh at the Bottom, that the Water may run away; they ſhould then be filled with prepared Earth, as in the caſe of Orange-Trees, and it ſhould be preſſed down, that it may not ſink too much from the Edge; you may raiſe the Earth in the middle two Inches higher than the Rim and put the Root three Inches deep into it. If you ſow Seed, you ſtrew in as much as you can take up between your Fingers Ends, and cover it over with an Inch of Bed-Mold.

You may put 4 or 5 Roots into large Pots.

TO forward your Flowers when potted, bury them up to the Rim in ſome hot Beds, and let them continue there 'till the Flower is ready to break out; and when they are ſet in their Places, take care to refreſh them oftener than other Flowers that ſtand in the open Ground.

Fine Tulips, Anemones, Ranunculus's, and Junquils, require a little more Compoſition of Earth, as you will ſee by and by.

THE Earth of Borders and of Flower-Beds, ſhould be dung'd a little and turned up for two Foot deep; if it be worn out, you may take ſome freſh Earth out of ſome neighbouring Walks or Alleys and mix with it, ſcreening it to take away the Stones. Every three Years you may likewiſe put ſome Dung to it, which is the time that the Roots and Plants ſhould be drawn to leſſen their Number: And this is all

the Preparation required. You ſhould obſerve to put no Dung into your Borders, but that which is throughly rotten, and well mixt with the Earth by two or three turnings; otherwiſe the Bulbs and Plants will be preſently burnt up. You have the time for making this Dung from the Month of *June*, when you draw the Roots, to the time you replant them in *September*. The Borders and Flower-beds ſhould be kept very clean from Stones and Weeds, which draw off all the Strength of the Ground. They ſhould be often turned, and have their Surface ſtrewed over with Bed-mold, to make the Earth more light and penetrable.

IN moiſt Grounds you may put one third of Horſe-dung, one third of Sand, and the other of the natural Earth of the Border, in order to make it dryer and to improve it a little. In dry Countries you may mix two thirds of freſh Earth, or, in its ſtead, Cow-dung, which is naturally cool, with one third of the Earth of the place, covering the Surface with one Inch of Bed-mold; half a foot thickneſs of this Mixture is enough to raiſe your Flowers on. Such as

HOT-BEDS are neceſſary for raiſing the Seeds of ſuch Plants as are tender and fear the Froſts; they are of great uſe in a Garden, by the Mold they produce, which ſerves to ſtrew over the Flower-plots and Borders, and to ſupply the Caſes and Pots; in a word, there is hardly any thing to be done without them in the whole buſineſs of Planting.

YOU may begin to make your Hot-beds in the Month of *March*; they ſhould be always expoſed to the greateſt Heat, and if poſſible lie againſt a Wall or within a Melon-ground that is incloſed; you may let them take their great Heat for a Fortnight before you ſow any thing in them, and then ſtrew an Inch thickneſs of Bed-mold over the Seed you ſow, covering the places with Bell-glaſſes: Theſe will keep the Seed from the cold Weather in the Spring, and being heated by the Sun, will much forward its Growth. If the Cold be any thing ſevere, you may cover the Glaſſes with Litter.

You ſhould always have a place kept on purpoſe for raiſing Flowers upon Hot-beds and Flower-Beds, to ſerve as a Nurſery.

HOT-BEDS will ſcarcely hold good above one Year; the ſecond Year you may heat them a-new, by filling up the Paths between the Beds with hot Litter: In like manner you may recruit old Beds, or ſuch as are too cold.

THAT you never need ſtay for the Moon in your planting or ſowing, I have already hinted: Leave theſe Fancies to the good People who are fond of them, this Age is too knowing to give into ſuch idle Stories. All you have to do, is to chuſe a proper time when it is diſpoſed to rain, which is of uſe to bury the Seed and make it ſprout the ſooner.

Seeds that are too hard and pretty large, ſhould be ſteeped in Water a Day before they are ſown; this fills them and makes them tender, without which they would be long in coming up.

I SHALL begin with annual Plants, that is, ſuch as riſe every Year from their Seed, and ſhall diſtinguiſh thoſe that are to be ſown upon Hot-beds, from thoſe that are to be ſown in the open Ground.

SEED ſhould always be gathered from the ſtrongeſt Plants and the moſt vigorous Stalks, and above all from Flowers of the fineſt Colour; they will always degenerate faſt enough, ſo that you cannot be too nice in your choice: It is to be obſerved that double Flowers in general never ſeed, except the Amaranthus, the *Indian* Roſe, the Lark's-heel, the Poppy, the Chryſanthemum, or great Daiſy, and the double Pink. Leave no more than the Maſter-ſhoot of your choice Flowers, and cut away all the other Stalks, that the Seed reſerved may have all the Nouriſhment and ripen the more certainly.

The Seed of the July-*Flower ſhould be ſown as ſoon as it is gathered, that thoſe that are double may ſhew themſelves before Winter, and ſo be houſed againſt the following Spring.*

SEEDS are in their Maturity and State to be gathered, when the Capſula or Husk which incloſes them is dry and ready to open, ſo as that the Seed is like to burſt out. You may be ſure of their goodneſs when upon putting them into a Veſſel of Water they ſink to the bottom. There are ſome to be ſown in the Spring, others in Autumn, ſome upon Hot-beds, others in open Ground; thoſe that you ſtay for the Spring to ſow them in, ſhould be kept during the Winter in Bags hung up to the Ceiling of ſome dry place.

THE annual Plants to be ſown upon Hot-beds in the Spring, are,

The double *July*-Flower.
The *Indian* Roſe.
The *Indian* Pink.
The Night-ſhade.
The Amaranthus.
The Chryſanthemum or great Daiſy.
The Amaranthus Tricolor, white and black.
The *Spaniſh* Sainfoin.
The ſtriped Balſam-Apple.
The Stramonium or Thorn-Apple.
The *Palma Chriſti* or *Ricinus*.
The Sweet Baſil.

The

The *Convolvulus* or great Bind-Weed.
The Purple Flower-gentle, or the Fox-tail.
The Ambrette or Holy Thiſtle.
The Monk's Hood, or *Indian* Creſs.

THE Seeds that are to be ſown in the Spring upon open Ground, that is to ſay upon Flower-beds and Borders of Parterres, are the ſame that are ſown in Autumn: Nothing but a very great Froſt or the Overflowing of the Ground ſhould put off your ſowing theſe to the beginning of *March*, for it is always better to do it in Autumn. Care ſhould be taken to clear and weed the Flowers you have ſown when they come up too thick, that is, to pluck up ſome of them from between thoſe that ſtand well: Theſe Flowers are,

In the Spring we ſow, both upon Hot-beds and Borders, the Flowers for Summer and Autumn.

The Lark's-heel.
The Double Poppy.
The Annual Candy-Tuft.
The Double Marygold.
The *Muſcipula* or Catch-Fly.
The Double Corn-flower, or wild Poppy.
The Eternal Flower or Sneeze-Wort.

THERE is leſs difficulty in raiſing Flowers ſown in open Ground, and in Pots, than thoſe ſown upon Hot-beds; which having got about three Inches height, ſhould be uſed to the Air by little and little, raiſing the Glaſſes upon little forked Sticks. In warm Nights the Glaſſes may be taken quite off, and be ſet upon the Forks again the next Morning, and this for the ſpace of a Month. When Flowers are too cloſe together upon your Hot-beds, they do not riſe ſo well; wherefore when they have got a little Strength, they ſhould in a rainy Seaſon be planted out in Rows, upon other freſh Hot-beds to forward them, and hinder their running up too high. When the Body is grown a little hard, your Beds ſhould be watered well, and, for want of ſecond Beds, you may raiſe ſome in Flower-beds. Theſe ſhould be covered over with Straw-mats in froſty nights, and uncovered again in the day when the Sun is upon them; your Straw-mats are to be born up by forked Sticks, to keep them from touching the Flowers.

The Amaranthus, the Indian *Roſe, the Tricolor, the Balſam-Apple, and other autumnal Flowers ſhould be pricked out 5 or 6 times on your Hot-beds, to enlarge their Stem and keep them from running up too high.*

IN a Month or two after, your Flowers will have Height and Beauty enough to be tranſplanted into the Parterres and Vaſes; they are then to be raiſed with their Clod or Earth about them, with the diſplanting Scoop, and carried gently to the Borders where there ſhould be Holes prepared for them ſuitable to the Size of their Clod. In making theſe Holes with the Spade, Care ſhould be taken not to cut any Root or neighbouring Plant, and to place your Flowers in the vacant Spaces deſign'd for them in the Borders.

This Clod of Earth at the foot of the Flowers, keeps them that they ſuffer leſs in the Carriage, and makes them take the better to the Ground.

The Plants and Vivacious Roots, are,

The Snap-dragon or Anthirinum.
The yellow *July*-Flower.
The vivacious Candy-tuft.
The *Oculus Chriſti* or *After Atticus*
The *Spaniſh* Pink.
Mignardiſe-Pink.
Sea-thrift.
Spaniſh Sainfoin.
Liver-wort.
Primroſes.
Columbine.
Mother-wort.
Fluellin.
Valerian.
Roſes Tremieres.
Lilly of the Valley.
Camomil.
Poets Pinks, or Hyacinths.
Single and double Pinks.
The Bell Flower.
The *March* Violet.
The Panſy.
The Paſque Flower.
The Auricula.
The Scarlet-bean.
The Paſſion-flower.
The little Daiſy.
The Sun Flower.
The *Indian* Jacea.
The ſingle Carnation.
The double Carnation or *Engliſh July*-Flower.
The *Jeruſalem* Croſs or Knights Scarlet-Croſs.
The Crowned Stork's Bill.
Ox-Eyes, or Buphthalmus.

THESE Plants are not uſually raiſed from Seed, tho' ſome of them may be ſo: We are ſatisfied with raiſing them from Layers, from Cuttings and from Slips, as the Carnation, the yellow *July*-Flower, the Poets Pink, and the little Daiſy. The Layers and Cuttings are to be taken off from the Stock at their Foot, every Year in Autumn: and as they are very vigorous,

vigorous, they may be ſet in the open Ground as ſoon as they are ſeparated.

LAYERS, Cuttings, and Slips often flower the firſt Year, but uſually 'tis two Years before they get Strength and produce any fine Flowers; you may raiſe them upon Beds in your Nurſery, or put them down at once in the place they are to ſtand. You ſhould obſerve to ſhade the Cuttings that are ſet in the open Ground for the firſt 5 or 6 Days with Straw-mats, leſt the Heat of the Sun ſhould wither them; thoſe that are in Pots ſhould be ſet in the Shade: theſe Slips or Cuttings ſhould be ſet three Inches deep into the Ground; ſharpening the end which you ſet in the Ground, like that of a Flute.

AS to the Cuttings and Roots you ſeparate from the Mother-ſtock, you do it with a wooden Wedge or Knife, when they are too ſtrong to be taken off by hand; each Cutting that is fit for replanting, muſt have one Eye at leaſt and ſome Roots, and the great Wounds that are made by this Work are to be afterwards recovered by laying on *Spaniſh* Wax.

The Bulbous Plants are theſe;

Tulips early and backward.
Narciſſus's common and double.
Narciſſus's of *Conſtantinople*.
Jonquils ſingle and double.
The Flame-coloured or Orange-Lilly.
The white Lilly.
The Hemerocalle or Day-Lilly.
Anemones ſingle and tufted.
The Ranunculus of *Tripoli*.
The bulbous Iris.
The Hyacinth.
The Crown Imperial.
The Martagon or Mountain-Lilly.
Tuberoſes.
The Crocus or Saffron-Flower.
The Cyclamen.
The Baſſinet or golden Knops.
The Peony.

THE beſt Bulbous Roots are the largeſt and ſoundeſt, thoſe that are not gnawn or otherwiſe defective, and 'tis the uncommonneſs of the kind that makes all thier Diſtinction and Merit. Among bulbous Roots we look upon Tulips as the moſt conſiderable, and what is ſaid of them will ſuffice for all the other Bulbs in general; as Jonquils, Narciſſus's,

Hyacinths, Lillies, *&c.* which have nothing particular in their Culture, and which has not relation to that of the Tulip.

TULIPS are divided into ſeveral Claſſes, into Early, Meridional and Backward, which are diſtinguiſhed by the Seaſons in which they blow; into coloured Tulips, which are thoſe raiſed from Seed; and into ſtriped and edged, which are eſteemed the fineſt.

* *Tulippe de couleur.*

WE call that a *coloured Tulip which is marked with ſeveral Colours, full and clear, without Mixture or Interruption; the ſtriped Tulip is a coloured Tulip, ſtreaked and edged with ſeveral other Colours, which make it ſtriped. That which comes up every Year neatly ſtriped, we call a † Pattern Tulip.

† *Tulippe parangonée.*

‡ *Paltots, Morillons, Agates, Marquetrines, Monſtres, Dragons, Veuves, Boſuel, Imperatrice, Triomphante, Junon,* &c.

STRIPED Tulips are alſo diſtinguiſhed by ſeveral ‡ Names among the *French*, which are nothing to the purpoſe of the *Engliſh* Reader, and which are given by every one according to their Fancy.

TULIPS are eſteemed in general when they are of a clear Colour, ſhining like Sattin, without being any ways mixed: When they have a blue Ground, and their Thrums or Stamina of a black or violet Colour. Any fantaſtick Colours that deviate moſt from yellow and red, are the moſt ſought after; ſometimes they degenerate, eſpecially thoſe that are ſown; others in time become better, and thoſe we call Chance Tulips. Theſe we put by themſelves in order to re-dreſs them, and they ſometimes afford very fine Tulips at two Years end. The ſtriped Tulips that are a little mixed, often clear themſelves the following Year.

* *Jonquils have this in paritcular, that they ſhould not be laid deep in planting. This hinders the Root from running to too great a length, which is their fault. The Bulbs of good Jonquils are all round.*

TULIPS commonly continue in Flower twelve or fourteen Days, unleſs they are planted at different times to prolong their Bloom: They love a light and ſandy Earth, and are ſo hardy, that they do not fear the Froſt: Notwithſtanding which, to preſerve ſuch as are fine, it is proper to give them ſome light covering in very cold Weather. You may plant them from the middle of *September* to the end of *October*, about five Inches one from another, by a Line, and always at the Edge of the Borders. Put them into the * Ground 3 or 4 Inches deep, in Holes made with a Dibble or Setting-ſtick that is round at the End, and not pointed; by reaſon the Roots falling to the Bottom of the Hole lie bedded even in the

the Ground, and ſtrike into it, without any Vacuity between; whereas when the Holes are made with a pointed Stick, the Cavities left at Bottom are ſubject to rot the Bulb, or at leaſt to put off its Bloom. Some thruſt the Root into Ground with their Hand, but this is an ill way, as being liable to peel and wound the Bulb by the meeting with ſome Stone, or elſe to bruiſe the Shoot. They ſhould be watered in a dry time, when the Bud comes forth from the Stalk, which will forward the putting out of fine Flowers.

TULIPS are multiply'd by Seed and Suckers, the Seed is taken from Tulips of a good Colour. The ſtriped and other fine Tulips ſhould not be ſuffered to run to Seed, but their Stalks ſhould be cut off as ſoon as their Bloom is over; the Root will be the better, and the Nouriſhment which muſt have gone to the Stalk and Seed, will contribute to its Conſervation and Growth.

TULIP Roots ſhould be taken up every three Years at leaſt, ſome Floriſts take them up every Year, or however every two Years; but the Term of three Years is moſt uſual for all Flowers. The Reaſon why they are then to be took up, is, that theſe Roots naturally ſink deeper into the Ground of themſelves, and are ſometimes loſt. If they are left many Years in the Ground without taking up, a great many will be loſt and the Beauty of the Flowers much impaired; whereas when they are re-planted from time to time, they are ſenſible of theſe Removals, and find the Benefit of a freſh Earth often ſtirred and dunged.

Fine choice Tulips that are always ſet by themſelves, are commonly taken up every Year.

THE moſt proper Seaſon for this Work is from the beginning of *June* to the end of *July*, in a mild and dry Time; when you ſee the Stalk begin to dry and wither away, you ſhould make uſe of diſplanting Scoops for taking the Earth up cleverly, taking care that nothing be cut.

WHEN the Roots are taken up, they ſhould be laid up upon ſome Board or Shelf for eight or ten Days, to clear them of the Moiſture of the Ground; after which you may put them into little Bags, Boxes, or rather into Baskets that they may have more Air.

YOU muſt not fail till the time fit for re-planting theſe Roots, to examine, pick and clean them well, and to cut off to the Quick ſuch Parts as are rotten or gnaw'd by Inſects;

and laſtly, to prevent the Roots from ſuffering in their caſting off their old Skin, and being ſpoiled by lying ſo as to touch one another in the Baskets. After this, you take off the Suckers with your Hand, which we call weaning a Root from its Mother.

DURING the three Years that the Roots lie in the Ground, the Suckers have time to form themſelves and get ſtrength, ſo that part of them make Roots that will bear the ſame Year: Thoſe that are not ſtrong enough, are to be planted out upon a Bed in the Nurſery, which ſhould be well dreſſed and looked after, and from which you raiſe from time to time abundance of bearing Flowers.

YOU may obſerve that ſuch Bulbs as have no Coat, as the Lilly, the Martagon, the Hemerocalle, the Iris, the Crown Imperial, the Saffron-flower, *&c.* always remain in the Ground; you never remove them but to take off the Suckers, and then put them into their places again immediately.

THE Fangs of the Anemone and the Claws of the Ranunculus are a kind of Bulbs, which they put out every Year, whereas the others, as you ſee, are raiſed but every three Years. Theſe Fangs and Claws, without this Precaution, would be very ſubject to rot and to degenerate; they are to be choſen as the other Bulbs before mentioned, and are to be kept in the ſame manner in Baskets, after they have been laid out ſome Days upon Shelves to air them. Before they are replanted, they ſhould be cleaned from all Filth, and the Suckers ſhould be taken off.

ANEMONES and Ranunculus's require a particular Earth like that of the Tulips, one half of freſh Earth, the other half Sand and Bed-mold, to make it dry and light; this is alſo very proper for fine Jonquils, which have one thing peculiar to them, that they like to be all together in a place, without any Mixture of Bulbs or other Plants. They are to be planted in the Months of *September* and *October*, as other bulbous Roots are; ſtrewing afterwards ſome Bed-mold over them; they ſcarce need any Water, and fear none but great Froſts, during which they ſhould be covered with Straw-mats or long Dung: They ſhould be taken up as ſoon as the Flower is over, and their Stalk turns yellow.

We have ſingle and double Anemones, ſhaded, tuſted, humourouſly variegated, gloſſed and ſtriped, which are the fineſt of all; we have likewiſe Ranunculus's ſingle, of one and of two Colours, double of one and two Colours, and ſtriped, which are always more eſteemed than the others. They are multiplied by taking off the little Claws which grow round the great one; after they are taken off, they ſhould be planted upon a Bed in the Nurſery as the Suckers before ſpoken of, except ſuch as are ſtrong, and may bear the following Year; they may alſo be raiſed from Seed.

The Seed of the Anemone is by the *French* called *Bourre*, becauſe it holds together ſo ſtrongly, that it muſt be mixt with Earth to ſeparate it, before it can be ſown. That of the Ranunculus is like the Seed of the *July*-Flower, but ſomewhat thicker. It is always gathered from ſuch Anemones and Ranunculus's, as are ſingle and of a good Colour.

It is needleſs to ſay that the Fangs and Claws of theſe Flowers, do as the Suckers before mentioned preſerve the Quality of the Root from whence they were taken, and that to have different kinds and a number of them, they are to be raiſed from Seed, which is to be kept till the Month of *Auguſt* for ſowing it upon a Bed prepared in the following manner. Firſt make the Surface of your Ground even with a ſmall Stick or Switch, and ſow your Seed thin and lightly upon it, ſtrewing over it ſome Bed-mold which ſhould but half cover it, to keep it in its place; then ſow ſome more Seed on it, and ſtrew over your ſecond Sowing with Bed-mold, till you have covered the whole about an Inch thick; after this, make the Surface ſmooth again with your Stick, cover the Bed with long Straw for fear of the Sun, and then water it through the Straw. At 14 or 15 Days end, take away the Straw under which theSeed ſhould be come up; take care to weed your Bed well to keep your Seedlings clean, and cover them in great Froſts in the Winter. The ſecond Year, when the Seedlings have formed what we call Peaſe, becauſe of their Size and Figure, have put out their ſecond Stalks, and thoſe are withered; you then take them out of the Ground, keep them in Sand, and replant them the following Autumn into another new Bed, which very much forwards their flowering, for theſe Seeds

Some ſow their Seed in long Caſes, for the better preſerving of it.

muſt have four or five Years before they make Suckers, Fangs and Claws, and a Bulb fit to bear Flowers.

THE ſame Method may ſerve for ſowing the Seeds of Tulips, Narciſſus, Jonquils, Hyacinths, *&c.* and for avoiding repetition, I ſhall refer to what has been here ſaid.

THERE are certain Flowers which it is more proper to raiſe from Suckers than from Seed, as the Tulip, Anemone, Ranunculus, Narciſſus, *&c.* others do better from Layers or Cuttings, as the Pink, the Carnation, Auriculas, *&c.* they grow infinitely finer and with greater certainty. The Sucker or Layer affords but one ſingle Flower, which always holds without much degenerating from the Beauty of the Plant or Bulb from which it was taken; ſo that this is a ſure way to preſerve the Species of fine ſtriped Tulips, double tufted Anemones, double Ranunculus's of two Colours, double Carnations, ſtriped Auriculas, *&c.* Whereas a Plant or Bulb which is left to ſeed, may yield a great many, the Beauty of which is very uncertain, moſt commonly of bad Sorts, much to one's diſcouragement; and ſometimes indeed thoſe that are very fine, and of great Variety of Colours. Theſe Seeds yield only Tulips, Anemones, Ranunculus's of Colour plain, variegated and accidental, and in a word ſuch as may ſucceed either well or ill.

The Pink always produces Layers which are ſplit off and the Branches laid down all round it.

The Auricula s a Flower that changes its Colour, and is the moſt variable of any.

YOU ſhould ſcarce keep any but ſtriped and doubled Flowers, and ſome ſingle ones, as well for their Seed, as becauſe a mixture of theſe ſets off the Beauty of the double Flowers, which are always more delicate and tender than the others, and conſequently require more Attendance and Regard.

FLOWERS in general demand certain Pains to be taken, as well to raiſe them as to multiply them. That of viſiting them every Morning before the Dew is off, is not the leaſt; to clean them from the Inſects which attack them, eſpecially Snails, Bugs, and Ear-wigs, and from the Spiders Webs which ſpoil all their fine Colours: They are of too weak a Nature to withſtand theſe of themſelves.

YOU ſhould obſerve to * water your Flowers as ſoon as they are planted, and to ſupply them with Water afterwards; you

* *Inſtead of Watering-Pots with many Holes, we make uſe of thoſe with a Neck only; becauſe Flowers are to be watered only at their Foot, not the Stalk and Leaves.*

are

are to take the Morning or Evening for this Work, tho' the Evening is better than the Morning, becauſe the Coolneſs holds much longer in the Night, and laſts even to Sun-riſe. Thoſe that are but young and newly growing, require but little Water, only to ſettle the Earth about them when they are planted out; but when Flowers are grown ſtrong, they muſt have a good deal of Water: there is almoſt always a Baſon made for this purpoſe in Parterres of Flowers, and in Melon-grounds where Flowers are raiſed.

NEW planted Flowers ſhould be kept from too much of the Sun for the firſt 5 or 6 Days, covering thoſe that are in the open Ground with Straw-mats, and ſetting thoſe that are in Pots in the Shade.

PARTERRES of Flowers ſhould be weeded from time to time, and be kept very neat and clean from all Filth, the Ground ſhould be duly ſtirred and often watered. In Storms which ſpoil and deſtroy the Flowers, care ſhould be taken to ſupport ſuch as are beaten down and diſordered with ſmall Sticks, as alſo thoſe that are run up too high, and are too weak to ſuſtain themſelves.

IT is abſolutely neceſſary for the Beauty and Preſervation of your Flowers to obſerve the following Rule. When you perceive a Flower has too many Suckers or too much Stock about its Root, ſo that the Flowers are too ſmall and in too great a Number, it ſhould be taken up that Year to ſeparate them, taking away the Suckers and dividing the Stock that is at the Foot, without which the Plants would miſcarry, and die away in the End.

YOU ſhould alſo beware never to lay your Flower-Borders near a Wood, a tall Hedge and high Walks of Elms or Lime-trees, where the Roots dry up the Ground all about and entirely exhauſt it. If you can find no other place for them, by reaſon of the Situation of your Ground, and the Diſpoſition of your Deſign, you muſt every five or ſix Years make a Trench in the middle of the Walk next the Border, and cut off all the Roots and Runnings of the Trees, for without this the Flowers will never thrive, nor live any time.

WE come now to ſpeak of the Place proper for all theſe Flowers, and the different Decoration they afford us in every Seaſon of the Year.

CHAP. VIII.

Of the Place proper for each Flower in a Garden, and of the different Decorations of Parterres according to the Seaſons.

AS there are ſome Flowers higher than others, they may be divided into three ſeveral Claſſes; Flowers of the largeſt kind, thoſe of the middle ſort, and the low or Dwarf-flowers. This Diſtinction is very neceſſary to prevent a confuſed mixing of one with another, for the tall Flowers would undoubtedly ſmother and ſtifle the low ones, and the middling Flowers would be ſpoiled by them; ſo that ſome order ſhould be obſerved in the placing of them.

'TIS pretended by ſome that the true place for Flowers is fixed by the Expoſition which ſuits them beſt, which is the Eaſt; however we cannot always give them this Expoſition in Parterres, the places of which are determined in ſuch a manner with regard to the Buildings, that they cannot be changed. This Obſervation therefore ſignifies nothing but in the little Beds, where Floriſts raiſe their choice Flowers, for in a large Parterre it is uſeleſs; in theſe the Flowers muſt ſurround every ſide, and riſe in different Situations for the ſake of Symmetry, eſpecially in pieces of Cut-work and Parterres of Compartiment.

FOR the ranging of Flowers in Borders, which are ſuppoſed to be well prepared and well dreſſed, you draw by the Line, ſmall Rills, lengthwiſe and acroſs at 4 or 5 Inches aſunder. Borders of ſix foot wide may contain 4 Rows of Roots on each ſide the middle, that is to ſay 8 in all; but in Borders of 3 or 4 foot wide, two Rows of each ſide are enough, becauſe

cauſe the middle is to be kept for the Flowers and Plants, that are to be brought in according to the Seaſons. When theſe Bulbs are laid in Rows upon the Ground in form of a Checquer, at 4 or 5 Inches one from another, you then plant them in the ſame order.

When you have 4 Rows on each Side the middle, you may make the two next the Box-Edging all of Tulips, which being naturally ſubject to go deep, are hindered by the Earth, which is firmer and cloſer next the Box-Edging, than in any other part of the Border; the two others may be mixed with Narciſſus's and Hyacinths. Theſe are the three kinds of bulbous Roots of the middling Flowers that we plant in Parterres. When you can have but two Rows of Roots on a Side, by reaſon of the narrowneſs of the Border, you may make one of Tulips, and the other of Narciſſus's and Hyacinths, or you mingle them together, that is, plant one Tulip, then a Narciſſus, then a Hyacinth, one after another, which has no ill Effect. You may alſo mingle the Spring Flowers and thoſe of the Summer together, for the advantage of the place, but always keep Bulbs with Bulbs, and Plants with Plants.

The great Vacancys in the middle of the Borders, are to be fill'd with clipt Yews and Flowering Shrubs cut into Balls, however without hurting any thing, for theſe are to be kept ſmall by frequent trimming of them. You likewiſe put in the middle ſuch flowering Plants as are of a middle Stature, as Snapdragon, Chriſanthemum, *Indian* Roſe, Poets Pink, Amaranthus, *&c.* and the large Bulbs of the Lilly, Crown Imperial, Martigon, *&c.* You muſt never ſet Plants upon the Edges, which are to be reſerved for the bulbous Roots, for in the planting and turning up the Ground, you would much endanger the cutting of them.

This Middle is alſo the right place for Flowers of the largeſt kind, as was the cuſtom formerly; but they are ſo diſagreeable to the Eye by their Height, which quite darkens a Parterre, that they are entirely baniſhed, as are alſo great Yews and Shrubs. Theſe Flowers are the *Roſe-Tremiere*, the Gigantine, the Pyramidal, Bind-weed, the Paſſion-flower, the Sun-flower, Monk's-hood, Scarlet-bean, *&c.* which require to be ſupported by Sticks to which they are tied. Theſe large Flowers are more proper to cover Walls, paling up well againſt

a Trellis either in a Court or a ſmall Garden in Town; or they may be ſet in Tufts or Bunches, between the Rows of Trees that ſtand detached.

As to the third kind of Flowers, which are the low or Dwarf-flowers, they make no effect in large Parterres, being covered and ſmothered by the others; they are fit for nothing but little Borders and Pieces of Cut-work, where they are mixed with neither the middling nor the high Flowers; ſuch as Auriculas, *March*-Violets, Daiſies, Panſies, Golden Knops, Liver-wort, Primroſes, Cyclamens, the Saffron-flower, *Mignardiſe*-Pink, Sea-thriſt, Camomil, with which you may alſo make Edgings of Pathways, and even whole Graſs-plots enamel'd with Flowers.

ANEMONES, Ranunculus's and Jonquils are of the number of low Flowers; and ſhould be ſet by themſelves in ſome ſeparate Piece and enamel'd Graſs-plot, or in the Volutes at the Riſe of a Parterre. They ſhould have a place entirely free of all other Bulbs and Plants, and ſhould poſſeſs the whole Border as well in the middle as upon the Edges.

THE double *July*-flower, the Pink, and Tuberoſe are ſeldom ſet in the open Ground; they riſe much better in Pots and Vaſes of *Dutch*-Ware, into which you may alſo put Flowers of the Seaſon, as the Amaranthus or purple Flower-gentle, the Tricolor, the Balſam-apple, *&c.* to furniſh out the whole Year.

IT is eaſy to ſee that the the middling Flowers are the moſt ſought after, that is to ſay, thoſe that riſe to a foot and a half or two foot Height at moſt; they ſhew very well at a Diſtance, and do no Injury to the View: And of theſe too we have the greateſt Number.

WITHOUT ſtanding to name the Flowers that blow in each Month, or make long * Catalogues of them, in which the greateſt part are repeated as laſting longer than a Month, I ſhall diſtinguiſh them by the Seaſons in which they flower, excluding the Winter as the moſt cruel Enemy to Flowers. We have then the Spring, the Summer and the Autumn, and theſe three Seaſons give room for three Decorations of Flowers for embeliſhing of Parterres in the Year, that is to ſay, that the Parterres change three times a Year, making three different Aſpects or Scenes of Flowers. So that there is the Decoration

* Morin. Le Jardinier Fleuriſte.

of

of the Spring, the Decoration of the Summer, and that of Autumn.

THE Decoration of the Spring is the moſt gay and one of the moſt agreeable to the Eye, but is of the ſhorteſt Duration, by reaſon of the Delicacy and Tenderneſs of its Flowers. The Decoration of the Summer is the richeſt and the moſt conſiderable for the Number and Diverſity of its Flowers. That of Autumn is the fineſt and moſt durable, tho' it be almoſt ſtript of the Bulbs and Flowers which grow naturally in the Borders.

ONE may have Decorations more frequent by the help of Pots, changing the Parterres every Month and garniſhing them with Flowers in Pots, * which are to be buried in the Borders up to their Rim: this ſurprizes and deceives one in ſuch a manner, that one would think theſe Flowers were raiſed in the open Ground; but it is very uncommon, and a great Expence.

* *By this Artifice the Parterres of the* Trianon *were formerly changed every Fortnight.*

THERE is alſo another Decoration of Flowers which has no relation to Parterres, it is that of † Theatres of Flowers, which conſiſts only in a mixture of Pots with Caſes, or in the uniform and regular placing of them upon Steps and Benches of Wood or Turf. All ſorts of Flowers are proper for this Work, eſpecially the Pink, Tuberoſe, Amaranthus, Balſam-apple, the Tricolor, and the *July*-flower. Theſe Benches and Amphitheatres of Flowers are to be changed according to the Seaſons, in the ſame manner as Parterres.

† *Their place is deſcribed in the Figure of the firſt and ſecond part.*

IN the choice of your Flowers, you ſhould not ſtand upon their Rarity, Dearneſs of Price, or the fine Smell they afford. Rarity and great Price do not always make a Flower beautiful, and the Smell is not what we ought to court in great Parterres, where the Borders, if we would have them fine, ſhould be well furniſhed every Year without Interruption or any Vacancy: The Abundance of Flowers, their Duration, Variety, good Order, and Mixture enamel'd with all ſorts of Colours, are the real Beauties of our Borders, and all that one ſhould deſire or wiſh for in a large Parterre. It is agreed that common Flowers often make a Shew farther than the double ones. You ſhould therefore have ſome of both, and Reds and Whites of each kind to make Variety. However, if you have any choice Flowers, you may raiſe them ſeparately in ſome little places, as in Pieces of Cut-work, and the Borders of ſome ſmall Parterre

The Borders of the Tuilleries *are always very well filled, tho' with common Flowers, and may ſerve for an Example of what is here ſaid.*

of Flowers. Let us now come to our Decorations, and to name the Flowers of each Seaſon.

IN the Spring our Borders are filled with the Bulbs and Seed that were planted and ſown in the foregoing Autumn. In the Summer, other Bulbs and Seed, ſome ſown upon open Ground in the Spring, others upon Hot-beds, furniſh our Parterres. In Autumn we have but few bulbous Plants, but a great many Flowers ſown upon Hot-beds and Flower-beds in the Spring, which are tranſplanted into our Borders with their Earth about them in *July*.

FOR the firſt Decoration in the Spring, that is, during the Months of *March*, *April*, and *May*, you have few Plants but a great many Bulbs; as,

Bulbous Roots, Fangs and Claws.

Early Tulips of all Sorts.	The Bulbous Iris and others.
Anemones ſingle, and double tufted.	Narciſſus's ſingle and double.
Ranunculus's of *Tripoly*.	The Early Cyclamen.
Jonquils ſingle and double.	The Crown Imperial.
Baſſinet or golden Knops	The Early Crocus or Saffron-Flower.
Hyacinths of all Sorts.	

Plants and Roots.

Auriculas.	Yellow *July*-flowers ſingle and double.
Liver-wort.	*March* Violets.
Panſies.	Little Daiſies.
Primroſes.	Lillies of the Valley.
Double *July*-flowers.	

THE Summer Decoration, which takes in the Months of *June*, *July*, and *Auguſt*, has fewer bulbous Roots, but is very Rich in other Roots and Plants.

Bulbous Roots and Fangs.

Late Tulips.	Martagons.
White Lillies.	Peony.
Orange or Flame-coloured Lillies.	Hemerocalles or Day Lillies.
	Tuberoſes.

Plants and Roots.

Fluellin.	*Mignardiſe*-Pink.
The Bell-flower.	*Spaniſh* Sainfoin.
The *Jeruſalem*-Croſs.	The Corn-flower or Wild-Poppy.
Pinks of ſeveral kinds.	

The

The *Indian*-Jacea.
The Yellow Gilliflower.
The annual Candy-tuft.
The double Peony.
The Lark's-heel.
The Balſam-apple.
The Sun-flower.
The ſingle Carnation.
The double Carnation or *Engliſh* Gilliflower.
Spaniſh Pinks.
The Poets Pinks or Hyacinths.
Columbines.
Mother-wort.
Greek Valerian.
The double Corn-flower.
Camomil.
Muſcipula or Catch-Fly.
Chryſanthemum or the great Daiſy.
Snap-dragon or Anthirinum.
The eternal Flower or Sneeze-wort.
Single and ſtriped ſweet Baſil.
Ox-Eyes, or Buphthalmus.
Sea-thrift.

AUTUMN comprehends the Months of *September*, *October*, and *November*; in which we have few bulbous Roots in our Decorations, but abundance of Plants.

Bulbous Roots.

Tuberoſes.
The Autumnal Cyclamen.
The Crocus or autumnal Saffron-Flower.

Plants and Roots.

The *Aſter Atticus* or *Oculus Chriſti*.
The *Palma Chriſti* or *Ricinus*.
Double Marigolds.
Night-ſhades.
Amaranthus's of all Sorts.
The ſtriped Balſam-apple.
The Stramonium or Thorn-Apple.
The Chryſanthemum or great Daiſy.
The Anthirinum or Snap-dragon.
The Crowned Stork's-Bill.
The vivacious Candy-tuft.
The Purple Flower-gentle or Fox-tail.
Tricolors white and black.
Indian Roſes.
Indian Pinks.
Valerian or great Set-Wall.
The vivacious Sun-flower,
The Ambrette or holy Thiſtle.

THO' the Winter be excluded, as no Flower Seaſon, yet as we are deſirous to have ſome Flowers in Town-gardens where we then dwell, notwithſtanding the Rigour of the Weather in *December*, *January*, and *February*, we may have theſe that follow.

Bulbs.	Single Anemones.	Early Crocus's.
	Winter Cyclamens.	Single Narciſſus's.
	Winter Hyacinths.	Snow-drops.
Plants and Roots.	Primroſes.	Liver-wort.

THERE are likewiſe other Sorts of Flowers that are of no great conſequence, and which are of no uſe but to perplex the mind of a private Man, or to ſwell the Books of Floriſts. I have mentioned here none but ſuch as are the fineſt and beſt known by every one, that the Culture and Search after them might be the eaſier; and I have alſo ſet down the different Names that are given them, that you might have a more diſtinct Idea of the Flowers here ſpoken of.

YOU may have Anemones and Ranunculus's in Autumn, if you plant them ſomewhat the later, and it may be ſaid in general, that you may be ſure of having almoſt all Flowers, if you ſow them at different times one Month after another, which you may do in order to furniſh your ſelf well in every Seaſon. But tho' you may ſow and plant the ſame Flowers at different times, to ſupply you throughout the Year, it is certain they never come up ſo fine as in the Seaſon that is proper for them. There are ſome Flowers however which tho' they are of the ſame kind, have a different Temper; for one is early or forward, the other late or autumnal, as the Crocus and Cyclamen, of which there are both Sorts.

There are ſome Flowers which you may make blow ſeveral Months one after another, by cutting off their Stalk when the Flower is gone, as the Snap-dragon, the Chryſanthemum, Mother-wort, and the Gilliflower, &c.

AS it is impoſſible to avoid ſome little unfurniſhing in our Decorations of Flowers, either by the dying of a Bulb, or a Plant's not taking root; you ought to have a ſtore of all ſorts of Flowers, as well in Pots, as upon Beds, to new furniſh and fill up the Gaps in every Seaſon. There is no need of having abundance of theſe, but it is abſolutely neceſſary to have ſome, unleſs you would have the mortification to ſee your Borders unfurniſhed in certain Places, without being able to remedy it the Year through.

The End of the Third Part.

THE

THE

FOURTH PART,

Which contains

A ſhort DISCOURSE of Water and Fountains.

CHAP. I.

Of ſearching for Water, and the different Ways of conveying it into Gardens.

AS the Neceſſity of having Water in a Garden is altogether indiſpenſable, as was mention'd in the ſecond Chapter of the firſt Part; it will not be foreign to my Purpoſe to ſpeak of it in this Treatiſe, as briefly as ſo copious a Subject will poſſibly permit, which alone requires a particular Volume.

Aqua nutrix omnium Virgultorum & diverſos ſingulis uſus miniſtrat.

THE Water of Fountains and Baſons comes either from the natural Springs, or from Machines that raiſe the Water. I ſhall ſpeak, firſt of all, of Springs, and the Manner of diſcovering them.

IF you are near any Mountain, or Hill, you are almoſt ſure of finding Springs, unleſs it be in a very dry and ſtony Country. Examine, firſt of all, what Sort of Herbs cover the Ground; and if you find Reed, Creſſes, wild Balm, Silver-Weed, Bull-Ruſhes, and other aquatick Herbs, 'tis a certain Sign there is Water thereabouts, provided they grow there of themſelves.

Vitruvius, *L.* 8. *Chap.* 1.

YOU may likewiſe diſcover hidden Springs, by lying with your Belly upon the Ground before the Riſing of the Sun, and holding up your Head, look along the Surface of the Earth; if you ſee any moiſt Vapours riſe in Waves from any Place, you may dig there, with ſome Aſſurance of finding Water.

Fa. Kircher *Mundus Subterraneus.*

Caſſiodorus.

SOME ſay, that Swarms of ſmall Flies pitching upon the Ground about one and the ſame Place, are certain Signs that there is Water in it; others adviſe to bore the Earth with long Iron Awgers, that by what is brought up in them, you may judge of what is contain'd under Ground.

The Art of Fountains, by Fa. Jean Francois, *Jeſuite.*

Palladius.

YOU ſhould obſerve that the Places where theſe Herbs are, and where you find Vapours riſe, be not moiſt upon their Surface, as a Marſh is; for it would be to no purpoſe to dig there, ſince ſuch Waters iſſue not from Springs, and are no more than a Collection of Rain-Water, and the Meltings of Snow. People have been a long time deluded by certain Perſons who pretend to find out Water by the Help of a Haſel-Wand, called a *Divining-Stick*, which is a ridiculous Piece of Folly; nevertheleſs it has had, and ſtill has its Followers, though but few.

Vallemont's *occult Phyſick.*

BUT without ſpending Time about the Notions of the Ancients, Experience teaches us that the Aſpect of the Ground alone is ſufficient to ſhew us if there be Water in the Place, if we conſider the Situation and Nature of the Soil.

THE moſt favourable Situation for Springs is the Side of a Hill, commanded by ſeveral neighbouring Heights, which is in this caſe the Sink or Drain of all the Springs, and of the Rain and Snow-Water ſcattered upon theſe high Grounds. As to the Nature of the Soil, it ſhould be of a whitiſh or greeniſh Colour, as Clay-grounds are, which by the Water's running down from the Top of the Hills is removed and car-

ried down to the Situation we are ſpeaking of, and is eaſily diſcerned by the Beds of Chalk and Clay that are to be ſeen.

THERE are likewiſe many other Ways of ſearching out Springs, but I paſs them over in ſilence, as well as ſeveral Obſervations I have made upon the Origine of Fountains, upon Water-Engines, upon the Leveling and Gauging of Waters, *&c.* which I am now at work upon, and ſhall hereafter communicate to the Publick.

THE Search for Water is uſually made in the Months of *Auguſt*, *September*, and *October*, becauſe at that Time the Earth being wholly diſcharged of its Moiſture, is drieſt, and all the Water that is then found, may be properly call'd a Spring.

SUPPOSE then that you have found Water in ſeveral Parts of a Hill, let Wells be made at convenient Diſtances, as well to know the Quantity of Water, as to diſcover the Depth to the Bed of Clay or Sand-Stone that holds it, which Bed ſhould never be pierced through, for fear of loſing the Spring. Seek always for the higheſt Places that you may take the Spring at its Head, and that the Water coming from aloft, may riſe the higher in your Gardens. You ſhould make a Communication between one Well and another, by Drains, built with dry Stones, for conveying the Water, and collecting the Weepings of the Neighbouring Hills, chooſing a Spot of Ground that is ſomewhat flat, join all your Water together in a * Reſerver, or Conſervatory, from whence you may lead it, by Pipes, to the Places deſigned for your Fountains and Water-Spouts: And to know what Height theſe Spouts will riſe to, that iſſue from the Place where you make your Reſervoir, you may level the Hill according to the following Practice.

* *Fr.* Reſervoir.

I SHALL only ſhew here the Uſe of a Level, commonly called the Level with Vials, which is the moſt exact and plaineſt that is.

'TIS a Pipe of Tin, about an Inch diameter, and three or four Foot long, as *A A*, *Fig.* 1. ſtrengthen'd in the Middle by the Iron Braces *B B*, and by the Socket *C*, which

ſerves

ſerves to fix it upon a Stake when you have Occaſion to make uſe of it. Upon the upper Part of this Pipe, at the two Ends, and in the Middle, are ſolder'd three other Ends of Pipe,

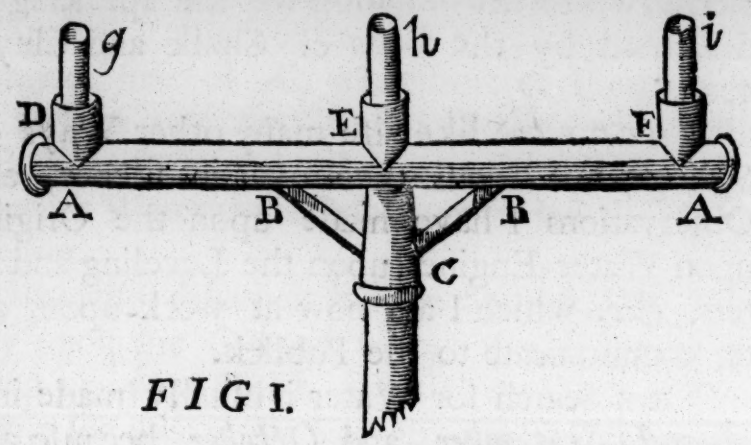


FIG I.

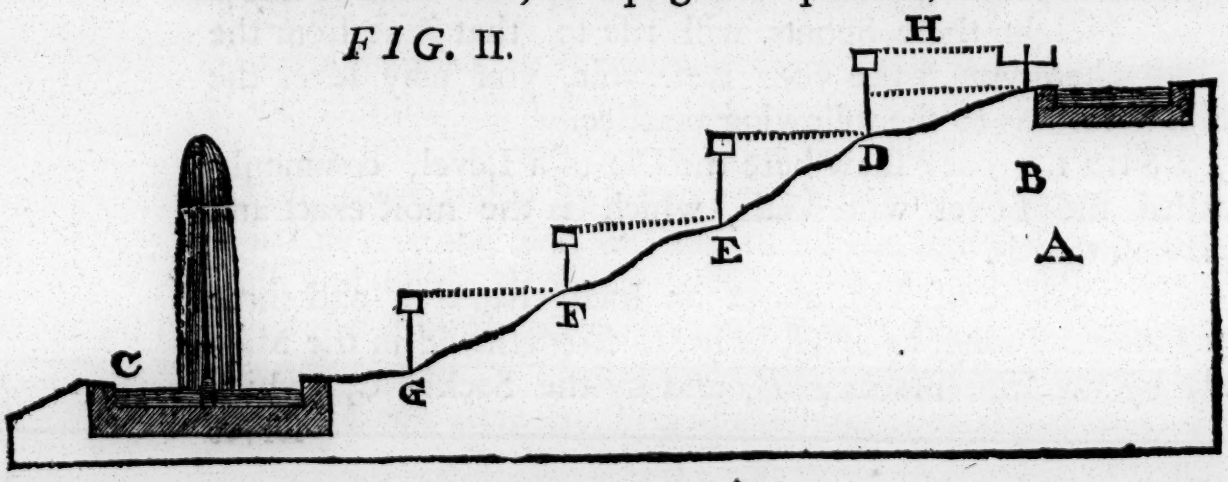
which communicate one with the other, as *DEF*, and in each of theſe are put the Vials of Glaſs *g h i*, almoſt of the ſame Diameter, which are open at both Ends, and are joined to the Pipes with Wax or Maſtick, ſo that the Water riſes into the Vials, without loſing itſelf any where.

THE Perfection that has been lately given this Inſtrument, is, that the Middle Pipe *E*, which is additional, being out of the Range of thoſe two at the Ends *D* and *F*; and being ſet of one ſide about the ſixth Part of an Inch, ſerves inſtead of Sights, and directs the Viſual-Ray much better.

TO come to the Uſe of this Level, ſuppoſe the Hill *A*, *Fig.* 2. following, to have on the Top of it a Collection of Water in the Reſerver *B*, which you would carry to the Bottom of the Hill, as *C*, to play a Fountain there. This is the way to level the Hill.

SET the Level at the Top of the Hill *A*, near the Edge of the Reſervoir *B*, as upright as poſſible, and direct it to

FIG. II.



the

the Bottom *C*, where you would make your Leveling. Then take Water, which you may mix with a little Claret Vinegar to diſcolour it, that it may be diſtinguiſhed the farther, and fill the Pipe, ſo that the Water coming up into the three Vials, there may remain a little Vacancy at Top. Let the Inſtrument reſt till the Water has done floating, and be careful to cover the Mouths of the Vials with Paper, leſt the Wind ſhould cauſe any Agitation of the Water. Then take a long Pole, upon the End of which is fixed a very ſquare Piece of white Paſtboard, and cauſe a Man to hold it at ſome Diſtance from the Level, as at *D*, making him raiſe or lower it, till the Top of the Paſtboard be exactly in the Line of Aim *H*, which is directed in this Manner. Placing yourſelf at ſome Diſtance from the Level, ſet your Eye, and bourn by the Surface of the Liquor contained in the three Vials, which will guide your Viſual-Ray, according to which you adjuſt the Pole to its right Height. This done, take the Height from the Superficies of the Water in the Reſervoir *B*, to the Liquor contained in the Vials, and mark it downwards upon the Pole, the Length of which is to be reckon'd only from this Mark, to the Level of the Place where it is fixed. You ſhould have a Paper, upon which to ſet down this firſt Station of your Leveling, and the others that follow. Let the Pole be removed, and at *D*, where the Foot of it ſtood, ſet the Level, and fix it as you did before, for a ſecond Operation; and ſo by ſeveral Stations, from *D* to *E*, from *E* to *F*, and from *F* to *G*, you come to the Place *C*, where the Spouting Fountain is to be. Then caſt up all the Meaſures noted down upon your Paper at each Station, and adding them together you have the Total, and know exactly what Fall there is from the Top of the Hill *B*, to the Bottom *C*, and how many Foot the Spout of Water will riſe, the Water always riſing near as high as its Head.

Or you may make uſe of a double Fathom or 12 Foot Rod, as the Engineers uſually do.

THE Force and Height of a Water-Spout, may diminiſh about a Foot in a hundred Fathom; that is, the nearer the Spouts are to the Reſervoirs, the higher they riſe.

NATURAL Water not being to be found in a flat and dry Country, you muſt have Recourſe to Water-Engines, which raiſe it from Rivers, Ponds and Brooks, as alſo from

Wells and Ciſterns, into Reſervoirs and high Places, for the purpoſe of carrying it afterwards down into the Gardens.

The Art of Fountains, by Father J. Francois, *p.* 120.

THESE Engines are much in uſe at preſent, and many People prefer them to the natural Heads, with regard to the Quantity of Water they ſupply, and to the Nearneſs of the Reſervoirs and Pipes, which coſt infinitely leſs than when the Water is convey'd for a League together; add to this, that they bring the Spring into the Houſe, which takes away the conſtant Regret of ſeeing the Conduit-Pipes broke by the Malice of Country Fellows, who take delight in any thing that will mortify a Gentleman. Nor are you under any Apprehenſion of having your Water cut off and diverted, which frequently occaſions tedious Suits at Law; or laſtly, that the Vein of Earth and Bed of Clay ſhould change its Situation, and deprive you entirely of the Benefit of the Springs.

WATER may be raiſed by divers Engines: Firſt, by the Force of Hand and Horſe-Pumps. Secondly, by making uſe of the two Elements, Air and Water, for the turning of Mills.

HAND-PUMPS, that is to ſay, ſuch as are moved by the Strength of a Man's Arm, are the meaneſt Engines, in reſpect of the ſmall Quantity of Water they furniſh, and the Fatigue a Man muſt have to lift up his Arms inceſſantly, to make the Balance ſwing. So that they are made uſe of only to get a little Water for watering a Garden, or to ſupply the Ciſterns and Troughs of the Kitchen and Stables; whereas the Pumps that are worked by a Horſe are of very great Benefit, and furniſh a great deal of Water, in a little time. There are ſome Pumps afford more Water in one Hour's time, than a Spring will bring in four Days, which is a material Point; beſides the Advantage they have, that you may ſet them in every Well in your Ground.

PUMPS are diſtinguiſh'd into two Sorts, that which forces the Water, and that which attracts or ſucks it; the Difference of which is ſufficiently known to every one.

THE ſecond way, of raiſing Water by Mills that go with the Help of the Wind or Water, is infinitely the beſt; theſe Engines furniſhing you almoſt continually with Water, and as one may ſay, Day and Night: but they are alſo a much more

more conſiderable Expence, and are not proper for every Situation.

YOU muſt be near ſome River, or Brook, to be ſerved by Water-Mills, which in their outer Form reſemble Corn-Mills, and differ only in the Compoſition of their Inſide. There are ſome of theſe Mills that grind Corn, and raiſe Water when you pleaſe, by taking off the Handle; but in Places far diſtant from Rivers and Streams, as thoſe ſeated upon ſome Hills may be, Wind-Mills do extremely well, the Wind ſeldom failing in ſuch ſort of Situations. Theſe Mills are alſo very like the ordinary Wind-Mills; but they have a greater Conveniency, which is that of turning themſelves to the Wind, by means of a Tail in Form of a Ship's Rudder, which turns about every way. Theſe are a little more rare than Water-Mills, having been put in Execution in three or four Places only*; however, the Excellency and good Succeſs of them, may very well warrant any private Gentleman's making the like.

* Verſailles, Marly, Meudon, *and near the Village of* Argenteüil.

ONE may ſay in general, that almoſt all Water-Engines are reducible to the † Bucket and Sucker, and that they have great Conformity with thoſe of the Ancients, eſpecially that of *Cteſibius*, of which *Vitruvius* makes mention.

† Piſton *is the ſhort Cilinder of Braſs or other Metal, which is moved up and down in the Barrel of the Pump, and by us call'd the* Bucket.

L. X. C. 12.

AFTER having ſpoken of the Means of finding out Springs, and raiſing Water, 'tis neceſſary to ſay ſomewhat touching Reſervoirs, before I proceed to the Manner of conveying it.

RESERVOIRS may be diſtinguiſh'd into two Sorts; thoſe that are made upon the Ground, and thoſe that are raiſed aloft in the Air.

THE Reſervoirs that are upon the Ground, are ordinarily Baſons of Water, or Canals made with Clay, where the Springs are collected, and which hold many thouſand Hogſheads of Water. They are uſually made pretty deep, as well that they may hold the more Water, and not empty themſelves ſo ſoon, as to add the greater Weight to the Water in Pipes, and throw the Spouts the higher. When you can place them in your Park, and within your own Bounds, 'tis certainly beſt; but when that can't be done, you may make them without in the Fields, incloſing them with Walls. In Gardens that are ſloping, the Baſons above ſerve for Reſervoirs to the Pieces of Water below, which is a great Advantage.

THE Reſervoirs that are raiſed aloft, are nothing near ſo large and capacious, the biggeſt holding no more than five or ſix hundred Hogſheads of Water, and are very ſeldom of this Size. They generally contain no more than a hundred or two hundred Hogſheads. The Difficulty of ſuſtaining them, and the Charge of Lead they are cover'd with, doth not permit to make them ſo big as thoſe that are upon the Ground. They are ſet up upon Arches, or Pillars of Free-ſtone, upon which are laid great Scantlings of Timber-work framed together, to ſupport the Bottom and Sides, which ſhould be carefully lined with thick Sheets of Lead ſoldered together. The Foundations and Timber-work of theſe Reſervoirs ought to be very ſubſtantial, to be able to ſuſtain the great Weight of Water.

THERE are more of theſe raiſed Reſervoirs to be ſeen than of the others, becauſe thoſe that have Water-Engines can ſcarcely build any others, by reaſon of the flat Situation of their Ground.

THE next Thing I am to ſpeak to, is that of conveying the Water from theſe Reſervoirs, to the Baſons for the playing of Jets, * Water-Spouts, and Caſcades.

* Boüillons d'Eau *are ſuch Spouts as throw the Water but a very little Height.* Vitruvius, *L.* viii. *C.* 7.

THE Ancients had three Ways of carrying Water, by Aqueducts under Ground, by Pipes of Lead, and by Pipes of Earth or Potter's-Ware, which are all three ſtill in Uſe, and to theſe we have added but two, which are Wooden-Pipes, and thoſe of Iron.

SUBTERRANEOUS Aqueducts ought to be well built with Free-ſtone, and cover'd over with arched Vaulting, or flat Stones, which the *French* call † *Dalles*, that the Sun may not affect the Water: If you meet with a Rock, the Vault may be cut out of it; and if ſome Hill prevent the Paſſage, you muſt pierce through it, or carry the Aqueduct round about, making Vent-Holes at every 50 Fathom, to give the Water a little Air. The Bottoms and Valleys, called *Ventres* by the *French*, which interrupt the Level of the Conduit, ſhould be filled up with Rubble-work, and ſolid Walls of Maſonry, or with Arches and Peers, as is done in the Aqueduct of *Arcueil*.

† Dalles *are any thin hard Stones which are uſed in* France *to cover Terraſſes, Balconies,* &c.

THE

THE Water is conveyed through theſe Aqueducts ſeveral ways; in Pipes of Earth or Lead; in Channel-Stones of Maſonry, which is the moſt uſual; or in Gutters made of Lime and *, Cement; or of Clay, in Countries where it is plenty. Sometimes you meet with natural Veins of Gravel, Sand-Stone, or Clay, upon which the Water will run without loſing itſelf. Two ſmall Paths ſhould always be made upon the Sides of theſe Troughs or Channels, that you may go in, and walk along them when there is Occaſion; and beſides this, a ſmall inſenſible Fall ſhould be given theſe Channels, to add a quicker Current to the Water.

* *Tiles beaten to fine powder. In* England *we make uſe of Terraſs*, i.e. Pozzolana *Sand.*

THESE ſorts of Aqueducts are proper only for collecting of Springs, and carrying them into a Reſervoir; for the Water not being confined, as it is in Pipes, loſes its Fall, and the Force it ſhould have to throw it up into the Air.

PIPES of Lead are the moſt convenient for conveying of Water. You may ſink them down, raiſe them up, or turn them aſide, without any Prejudice to the Water that runs in them. Of theſe there are two Sorts, the Mould-Pipes, and the Solder'd. The firſt are caſt in a Mould, of what Length you pleaſe, uſually about twelve Foot long; they are made thicker than the Solder'd-Pipes, for fear of blowing, ſo that they are the beſt, and moſt eſteemed; but they coſt more by reaſon of their Weight. Solder'd-Pipes are no other than Pieces of Sheet-Lead turned up, and ſolder'd at the Joint. The biggeſt leaden Pipes rarely exceed ſix Inches diameter, and the leaſt are about ¾ of an Inch, they are fixed one to another with Joints of Solder. They are ſometimes ſubject to burſt, and to waſte in Ground that is full of Chalk.

PIPES of Earth, or Potter's-Clay, which was the third Way of carrying Water among the Ancients, is that which coſts leaſt, but requires the moſt Repair. Theſe Pipes are a Compoſition of burnt Earth, like that of which Pots and Pans are made. The ſeveral Lengths, which are generally two or three Foot long, run one into another; and the Joint, which is made with a Hem, or Collar, is ſecured with hot Maſtick and Hemp. When theſe Pipes are made uſe of to convey Water that is forced, they are environ'd with a ſolid Body of Mortar or Cement, five or ſix Inches thick, which preſerves them ſome Time, provided you firſt take the Precau-

tion to let them dry ſome Months before you lay the Water into them, that the Mortar may have Time to harden; and ſecondly ſecure the Pipes, which are very brittle, upon ſolid Beds and Foundations of Maſonry, for fear they ſink with the Weight. Theſe Pipes are more proper to carry off the waſte Water of Baſons, than that which is to ſpout aloft, which they can hardly reſiſt any long Time. They are ſubject to Fox-Tails, which are the Roots of very ſmall Trees, that get through the Pores of the Earthen Pipe, or through the Joints of the Maſtick which rots in the Ground, and being there fed by the Water, grow to ſuch Length and Bigneſs, as to ſtop up the Pipe entirely. I have found ſome of them five or ſix Fathom long. Some will have it, that theſe Fox-Tails come from the Hemp that is wrapt about the Joints of Maſtick, or elſe from certain Seeds that come into the Pipe along with the Water.

Architecture Francoiſe de Savot, *Chap.* xxx. *P.* 191.

EARTHEN Pipes have a peculiar Excellence, for Fountains of Drinking-Water, That being glazed on the Inſide, no Mud or Slime ſticks to them, and the Water keeps better and freſher than in other Pipes; beſides that, it gets no ill Quality in paſſing through them, as it does in thoſe of Lead and Iron, and Wood.

THE two Ways of carrying Water, that we have added to thoſe of the Ancients, are by Pipes of Wood, and of Iron.

TO make Wooden Pipes, you take great Trees, as of Oak, Elm, or Alder, the ſtraiteſt you can get, and bore Holes through them, of three or four Inches diameter. They are ſharpen'd at one End, and are ferriled and girdled with Iron at the other, which ſerves for jointing them one into another, and theſe Joints are cover'd over with Pitch. Theſe Sorts of Pipes are good only in Countries that are naturally damp and marſhy, for in dry Ground they quickly rot.

The Waters of Liancourt, *of* Dampiere, *of* Courances, *and part of thoſe of* Chantilly, *are carried in nothing but Wood.*

IRON Pipes are caſt in a Mould, and are very much in Uſe at preſent; there are two Sorts of them, which the *French* diſtinguiſh * *à Manchons*, and *à Brides*, but the latter only are made uſe of, and are eſteemed the beſt. Iron Pipes have all the good Qualities of thoſe of Lead, laſt longer, and coſt

* *The Pipes* à Manchons *run ſix Inches one into the other, and are jointed together with Maſtick and Hemp, as the Earthen Pipes.* *Thoſe* à Brides *are faſtened to each other by certain Ears or Stays, which are ſcrewed together, with Leather between the Joint.*

but a † fourth or fifth Part of the Price. They are made even to 18 Inches Diameter; each Pipe is three Foot and a half long, and at both Ends there are Stays, or Ears, which are joined and brought close together with Nuts and Screws, and between the Joints are put round Pieces of Leather and Mastick. In difficult Places you put Rounds and Half-Circles of Lead; as also where there are Elbows, Cocks, and Suckers, you are obliged to make good the Intervals with Pipes of Lead.

† *This must be understood, partly with respect to the great Substance required in a Leaden-Pipe, more than in a Pipe of Iron of the same Diameter; partly with respect to the Difference of Weight between Lead and Iron; and partly with respect to the Price of Lead in* France, *where 'tis much dearer than in* England.

'Tis not sufficient that I have spoken of Reservoirs, and the different Ways of conveying Water: There is still a material Point behind that must not be forgot; which is the Proportion and Diameter that Pipes ought to have, with respect to the Spouts you would have them throw. 'Tis on this the Beauty of your Water-works depends; for if the Pipes are too small, or furnish too many Basons, without having their due Proportion, they will form nothing but a few feeble Spouts, and poorly supplied; besides that these Pipes are subject to be easily choak'd up, and to burst, because the Wind is so confined in them, that it can scarcely get out.

The French *Conduit-Makers call such small* Jets, Pissotiers, *or Pissing-Streams.*

To remedy this, I shall shew you the most just Proportion that can be given to Conduit-Pipes, with respect to their Water-Spouts. They ought to be in a quadruple Proportion to their Quills, that is, the Diameter of the Pipe should be four times as big as that of the Quill, that the Column of Water may be proportionable, and that the Swiftness of the Passage through the Pipes may be equal; besides that there is too much friction upon small Pipes, which have great Quills, and upon the Edge of small Quills that have large Pipes; some Instances will explain what is now said.

Mariotte's *Treatise of the Moving of Water, Part 5. p.* 340.

To make a Spout play four or five Twelfths of an Inch thick, that is to say, whose Quill or Ferril is bored to that Diameter, and throws out an Inch and a little more in Superficies, the Pipe should be an Inch and a half in Diameter; for a Spout of six or seven Twelfths, the Pipe ought to be two Inches; for one of eight or nine Twelfths of an Inch, the Pipe should

ſhould be three Inches; and for a large Spout of an Inch Bore, the Pipe ſhould be four Inches Diameter. To play a Spout ſtill bigger, as of an Inch and quarter, or better, or what we call a Sheaf of Water, there muſt be a large Pipe of ſix Inches Diameter. I ſhall forbear ſaying any thing of Pipes that come up to a Foot or 18 Inches Diameter; they coſt ſuch vaſt Sums, that they ſeem to be above the Reach of the moſt wealthy private Gentleman.

THERE are divers Sorts of Quills which throw the Water into Sheafs, Showers, Suns, Fans, and a great many other Forms, as you pleaſe; but the moſt common are made like a Cone, and have but one Hole for the Water to iſſue at: Theſe are the beſt too, not being ſo ſubject to be ſtopped ſo often as the flat ones, which are pierced with ſeveral Holes or Slits made oppoſite one to the other, or as thoſe that have ſeveral other ſmall Quills ſolder'd on upon them, to form a Sheaf.

SOME pretend, that the Spouts of Water play better when the Quills are pierced with a ſingle Hole through a pretty thick Plate, than when they are raiſed into a Cone; becauſe there is leſs Friction made, and leſs Reſiſtance at the Mouth of it.

Mariotte, *Part 5. Page 336, and 337.*

'TIS certain, as to Pipes, that the bigger they are, the better the Water plays; and 'tis the Life of fine Water-works to be well fed, which ſhould be by one continued Length of Pipe, all of a Size from the Reſervoir to the very Quill, without any Diminution; this furniſhes more Water, and gives a greater Weight to the Spout, which without it appears choaked, and confined too much.

THERE are ſome of a quite contrary Opinion, who imagine, that in a Pipe of 100 Fathom long, the firſt 50 Fathom from the Reſervoir ſhould be bigger than the laſt 50 to the Quill, which they pretend ſhould be leſſened about an Inch in Diameter; to the end, ſay they, that the Water may begin to be forced and contracted at ſomewhat more Diſtance in the Pipe, which ought always to go diminiſhing to the very iſſuing out of the Water: But this is a very wrong Notion in the Caſe of Fountains, for it is ſufficient to contract and force the Water in the Trunk or Column of the Spout, and in the Quill, without diminiſhing the ſize of the Pipe.

Pipe. This is ſo true, that upon dividing the Quill the Water will neither riſe to the ſame Height, nor with the ſame Strength, and will do no more than ſlabber about.

THERE is but one Caſe where the Diameter of the Water-Pipes ought to be diminiſhed, which is, when they are of a very great Length, as three or four hundred Fathom; it is then convenient to lay three ſeveral Sizes of Pipe; for whereas without it, the Water in ſo great a Length would ſleep as it were by the way, and loſe much of its Strength; theſe different Sizes quicken it, and recover its Force: For Example, in a great Length of 300 Fathom, you may lay the firſt hundred Fathom with Pipe of eight Inches Diameter, the next 100 with ſix Inches, and the laſt hundred with four Inches; but in Pipes of 100 or 150 Fathom, the ſame Diameter ſhould be continued the whole Length to the very Quill.

WHEN you have ſeveral Spouts to play in a Garden, as four or five for Example, it is no way neceſſary to lay five or ſix Pipes from the Reſervoir, that is, as many Pipes as Spouts; this would be a needleſs Expence. You need lay no more than two or three main Pipes, to which you may ſolder on Branches for ſupplying all your Spouts: This depends upon the Proportion that you give them. There ſhould paſs leſs Water through all the ſmall Branches taken together, than through the great ones, ſo that not taking in all the Water, the greater Pipes may force the leſſer, which will balance the Friction, and give Vivacity to the Water: For Example, to make three Jets of Water, each ſix or ſeven Twelfths of an Inch in Diameter, every Branch according to the quadruple Proportion above mentioned, ſhould have two Inches in Diameter, and will let four Inches of Water through it, ſo that the three together will be 12 Inches, the main Pipe then muſt be four Inches in Diameter, and will carry 16 Inches of Water, that is to ſay, has more force by a quarter than the three others. By this means the Force will ſubſiſt even to the laſt Drop, and theſe Jets will play all together, without ſpoiling one another, and abating of their Height. The main Pipe is to be continued all of a ſize to juſt againſt the Baſons where you divide it by laying on your Branches.

By this Example you may judge of others; and if the Jets are of different Size, and conſequently the Branches, you have no more to do than to compute their whole Content and make your main-Pipe ſo large, as to force them in ſome meaſure.

YOU ſhould obſerve, that at the Mouth of the Pipe, that is, at the Out-let of the Reſervoir, it ought to have two Inches more Diameter; as if it be a Four-inch Pipe, you ſhould give it a Waſher and Opening of ſix Inches at the Bottom of the Reſervoir, that the Entrance being larger, it may ſerve as a Tunnel to evacuate the Water the ſooner, and give the greater Preſſure to the Spout.

THE Pipes being continued to the Baſons, regard ſhould be had to *fix* a Braſs-Cock there, of a Size agreeable to the Diameter of *the* Pipe; taking care, that as much Water may paſs through the oval Hole of the Cock, and Boſs, as through the circular Hole of the Pipe. There are ſeveral ſorts of Cocks, as thoſe with a ſquare Head, with Branches, like the Head of a Crutch, and with two or three Vents for the Water.

A PRETTY large round Piece of Lead, like a Collar, ſhould be ſoldered round the Pipe, in the place where it goes through the Clay-Bottom, and Solid of the Baſon, that the Water being ſtopt by this Plate, may not run along the Side of the Pipe, and ſo be loſt.

PIPES ſhould always lie uncovered upon the Bottom of a Baſon, and never be buried within it, that they may be the better mended when they happen to be at fault. To the Conduit-Pipe is ſoldered an upright Pipe, called a * Socket, in the Center of the Baſon, which is the Place where the Spout ſhould be, and at the End of this Socket is likewiſe ſoldered the Braſs-Nut, upon which the Quill is ſcrewed. At about two Foot from the Socket, the Pipe ſhould be cut off, and ſtopt with a Wooden Stopple with an Iron Ferril, or with a Braſs Stopple and Screw ſoldered on there, that you may empty the Pipes when there is Filth in them, by taking out theſe Stopples.

* *Fr.* Souche.

IN Conduit-Pipes, all Elbows, Bendings, and right Angles, ſhould be avoided as much as poſſible, becauſe they diminiſh the Force of the Water: And when they cannot be carried directly ſtreight, but that a Turning muſt neceſſarily be, the Elbows ſhould be taken a little the farther, to leſſen the Quickneſs of them.

IN Pipes that are pretty long, Air-holes, or inverted Suckers, ſhould be made at convenient Diſtances, to relieve the Pipes, and let the Air out; and when, after a quick Declivity

vity, the Pipes come to lie level again, you muſt, in that place, ſolder on a Cock to reſiſt the Weight of the Water, or the Pipe will not laſt long.

PIPES ſhould always lie two or three Foot deep in the Ground, becauſe of the Froſt, and for fear of Thieves, and ſhould be laid along the Walks, and never in the Woods and Parterres, *&c.* that you may ſooner diſcover their Faults, and more eaſily come at to mend them, without diſplanting any thing. When they run under Terraſſes, you ſhould make a little vaulted Arch over the length of your Pipe, that you may come at it from time to time. The Thruſt of the Walls and Earth, which is always moving in theſe Parts, will undoubtedly ruin your Pipes, if they are not ſecured by ſuch an Arch.

CHAP. II.

Of Fountains, Baſons, and Caſcades of Water; and the Manner of making them.

FOUNTAINS and Water are the Soul of a Garden, and make the principal Ornament of it; theſe animate and invigorate it, and if I may ſo ſay, give it new Life and Spirit. 'Tis certain, that a Garden, be it in other reſpects never ſo fine, if it want Water, appears dull and melancholy, and is deficient in one of its greateſt Beauties.

THE Diſtribution of Water in a Garden, is one of the moſt difficult Points; it requires ſome Ingenuity and Induſtry, to order it ſo, that a little Quantity ſhall appear a great deal; and that not laviſhing the Water away in Shell-Works, and little Baſons, which are but Trifles, it be ſpared for neceſſary Places, where it may make a handſome Effect, in forming large and well-fed Spouts. It were to be wiſhed too, that the Parts of a Garden might be as well deſigned, and the Walks pierced as advantageouſly as poſſible, for the Water.

CARE ſhould be taken in this Diſtribution, that the Fountains be diſpoſed in ſuch manner, that they may be ſeen almoſt all at a time, and that the Water-Spouts may range and aline one with another, which is the Beauty of them: This Repetition makes a Confuſion very agreeable to the Eye, and makes one think them to be more in Number than they really are.

WATER is diſtinguiſhed divers ways, as natural and artificial, ſpouting and flat, quick and ſtagnant.

NATU-

NATURAL Water is that which iſſuing out of the Earth of itſelf, runs into a Reſervoir, and makes the Fountains play continually: Whereas the artificial is raiſed into a Reſervoir, by means of Hydraulick or Water-Engines, as I have already explained in the foregoing Chapter.

THAT is called ſpouting Water, which, riſing into the Air in the middle of Baſons, forms ſingle Jets, * Sheafs, † Bubbles of Water, *&c.* to diſtinguiſh it from flat Water, which makes Canals, Pools, Fiſh-Ponds, and Baſons of Water, without Spouts; which is no great Beauty in a Garden, becauſe being always quiet, and in the ſame ſtate, it does not animate a Garden, as ſpouting Water does, which ſeems to give it Life; and 'tis chiefly of theſe laſt, that we ſay there are fine Water-Works in ſuch a Place.

* Gerbes d'Eau *are made by ſeveral little Spouts playing all together, which form a kind of Sheaf.*

† Boüillons d'Eau *are very low Spouts, that riſe but little higher than a quick Spring.*

RUNNING Water is that which runs without Intermiſſion; it is the fineſt of all for its Clearneſs; and its conſtant Motion renders it wholeſome, and very pure: Of this Kind are the Waters of ſmall Rivers and Brooks, of which are made || Canals and large Pieces of Water in Gardens: Of this Number are likewiſe reckoned ſuch Fountains as run Day and Night.

|| *As the Canals of* Chantilly, Berny, Liancour, Courances, Tanlay, Villacerf, *&c.*

STAGNANT Water is the moſt diſagreeable of all; it grows dirty, green, and all covered with Moſs and Filth, having no Motion at all, as in Baſons that ſeldom play, and in marſhy Lakes and Ponds: They are alſo very ſubject to corrupt, and to ſtink, in the Summer.

THERE is no fixing any certain Places for Fountains and Baſons, which look very well wherever they are; if you could ſet them in every Part of your Garden, it were ſo much the better; but as they are a very conſiderable Expence, their Number ſhould be regulated with great caution.

A BASON is uſually ſet at the End, or in the Middle of a Parterre, fronting the Building; this is a Place where you ſhould never fail to make one, as likewiſe in a Kitchen-Garden: But when you can have them in Groves, 'tis a double Satisfaction; Water there being, as it were, in its Center: beſides, the Verdure of the Trees ſerves as a Ground to ſet it off, and improves the very Whiteneſs of the Water; the Purling and Murmur of it ſtrike the Ear too the more

agreeably, by the Stillneſs and Echo that reigns in the Woods.

FOUNTAINS ſhould not be placed too near the Building, becauſe, in the Summer, there riſes off the Water Vapours ſo corrupt as may communicate a Malignity to the Air we breathe, which is very injurious to the Health; beſides that they ſtrike a very great Dampneſs to the Walls of the Building, enough to ſpoil the Paintings and Moveables within, and incommode you in the Night with the Croaking of Frogs and Toads, *&c.* Theſe are the Reaſons why Country-houſes are not environed now-a-days with Motes of Water, as they were heretofore, and that the Ditches of ſeveral Caſtles are now laid dry.

FOR the Form and Figure of Baſons, they are moſt commonly round; however, we have ſome octangular, oblong, oval, ſquare, *&c.* When theſe Baſons exceed a certain Size, they are called Pieces of Water, Canals, Mirrours, Fiſh-Ponds, Pools, and Reſervoirs.

FOR the Size of Baſons, I ſhall ſay in general, that you can hardly err in the Bigneſs; the larger they are, the better; but you may eaſily go wrong in making them too little, which is very ugly: Theſe are two Extremes which ſhould be equally avoided, as the making of a little Baſon in a great Space, or devouring the beſt Part of a Spot of Ground with a great Piece of Water. The juſt Proportion of this ſhould be left to the Diſcretion of the Architect, or of him that is to give the Deſign of the Garden.

A GREAT many pretend, that the Size of a Baſon ſhould be proportioned to the Height of the *Jet d'Eau*; to the end, ſay they, that the Water thrown up into the Air, tho' toſſed by the Wind, may not go beyond the Edge of the Baſon, but all fall down again without wetting the Walk about it. In this they are miſtaken; for let the Spout riſe never ſo little height, tho' it be in a large Baſon, the Wind ſhall always blow the Water away, and carry it a great Diſtance off: 'Tis an Experiment I have often made, and 'tis indiſputable. I agree with them, that it is as diſagreeable to ſee a * ſmall ſlender Stream in a great Baſon, as to ſee a very

* *As the little Spout of the great Baſon at the* Palais Roial.

very thick and very high one in a little Baſon. There ſhould be, as much as poſſible, ſome Sort of Agreement between the Stream of the Spout, and the Baſon; but there is no determining any exact Proportion between the Size of Baſons, and that of their Spouts: This depends upon their Fall and Force of the Water, or upon the Place where the Ground will permit you to ſet your Fountains.

As that of the ſecond Parterre over againſt the chief Front of Trianon.

As to the Depth you ought to give Baſons, it is ordinarily from 15 to 18 Inches, or two Foot at moſt; this being ſufficient for dipping the Water-Pots into it, and for ſecuring the Bottom of the Baſon in great Froſts. You never make them deeper, but when they are to ſerve for Reſervoirs, or when you would keep Fiſh in them, as is ſometimes done in great Baſons, Canals, and Ponds of Water: Then you give them four or five Foot depth, which is enough to hold a great deal of Water in Store, for the Fiſh to breed in as they ought, and to carry a Boat, in caſe you have a mind to put one into it; which you are obliged to do when there are Spouts in the Middle of a Piece of Water, to go and unſcrew the Ferril, or Quill, and to take out the Dirt that hinders the Water from doing its Office.

You ſhould eſpecially obſerve, in point of Depth, not to exceed four or five Foot, tho' it be a Canal or Reſervoir, it being dangerous when 'tis more, as eight or ten Foot deep; ſo many Accidents have happen'd to Perſons, who going near ſuch Baſons have fallen in and been drown'd, that in truth it ought ſeriouſly to be reflected on, and all Endeavours uſed, that a Thing made for the Delight and Ornament of a Garden, may not in the end occaſion ſo great Vexation and Trouble.

To build a Baſon, the Dimenſions of it ſhould be very exactly taken, if you would make it good, and have it hold Water well *. You cannot be too circumſpect in this Work, the Water always naturally ſeeking to run away; and by its Weight and Preſſure in a Baſon, ſubject to get out at the leaſt Cranny, which grows conſtantly bigger and bigger. If you fail of performing this Work well at firſt, 'tis very difficult to repair it; for there are ſome Baſons have been wrought ſeveral times over, without being ſcarce able to make them hold Water, for want of their being made well

* *The Conduit-makers ſay a Baſon ſhould hold Water like a Diſh.*

As the Octangular Baſon upon the Parterre of the Palais Roial.

well at firſt. This Work, beſides that it requires a great deal of Care, and experienc'd Workmen, demands alſo good Materials to be uſed in it, as ſhall be explained hereafter.

BUT before I proceed to ſhew you how Baſons are made, it will be neceſſary to diſtinguiſh the ſeveral Kinds that are in Uſe. Of theſe there are three Sorts; Baſons that are made with Clay, with Cement or Mortar, and with Lead.

I SHALL begin with Baſons of Clay, as thoſe that are moſt in Uſe.

THE Place being traced out upon the Ground, you muſt, before you cauſe it to be dug, extend and enlarge the Outline of it four Foot farther, that is to ſay, make the Diameter four Foot bigger on each Side, which makes eight Foot in all. The Baſon will be never the bigger for this, becauſe the Addition of four Foot will be filled up and poſſeſſed by the Walls and Clay-work of the Circumference. You ſhould alſo obſerve, for the Bottom of the Baſon, to hollow the Ground out two Foot lower than the Depth you deſign to give it. The two Foot thus dug out, will be likewiſe filled by the Bed of Clay, which ought to be 18 Inches thick; and the other ſix Inches are for the Gravel and Paving which is laid upon the Clay. For Example; if you would make a Baſon of ſix Fathom Diameter, the Ground ſhould be open'd ſeven Fathom and two Foot; and if you would give two Foot Depth of Water, it ſhould be dug out four Foot. So the Baſon, when finiſh'd, will always come to the Size and Depth required, of ſix Fathom Diameter, and two Foot Cavity.

Some Fountain-makers allow but fifteen Inches Thickneſs of Clay at Bottom, though they give the Sides 18, which they do to ſave ſome of the great Quantity of Clay that the Bottom of a large Piece of Water takes up.

THE Ground ſhould be dug perpendicularly, and be carried away, as was taught above in the ſecond Chapter of the ſecond Part. The Digging being finiſhed, and the Earth cleared out, you muſt build two Walls, and incloſe the Clay betwixt them, that by this means the Water may not dilute it, that it may keep cool, and that the Roots of the neighbouring Trees may not ſo eaſily penetrate it.

AGAINST the Earth raiſe or back up the Wall *A*, *Fig.* 1. *following*, of one Foot thick, from the Bottom of the Digging, to the Level of the Ground above, which you may build with Shards, Rubble, or Flints, no matter which; with Mortar

tar made of the natural Earth, mixed and beaten up with Mortar. This Wall is called the Ground-Wall, becauſe it is built only to reſiſt the Preſſure of the Ground about it, and to keep the Clay from drying too faſt.

THE Wall being thus built all round the Work, cauſe the Clay to be brought in, which is to be thrown into the Bottom, and made fit for working and handling, by throwing Water upon it from time to time, and beating it up twice or thrice, ſuffering no Dirt to be in it. When your Clay is prepared, let it be ſpread and thrown about by Shovels-full, and afterwards kneaded by little and little with Mens naked Feet, to a Foot and a half high, and about ſeven or eight Foot wide all round the Compaſs of the Wall; you ſpread the Clay ſeven or eight Foot wide, only to lay on the Floor and Joiſts, upon which the ſecond Wall *B*, is to be built, which the *French* call *Mur de* * *Douve*, it being no way neceſſary to ſpread the Clay at firſt over all the Bottom of the Baſon. Meaſure 18 Inches from the Wall *A*, and leaving this Interval for the Body of Clay *C*, the Wall *B* muſt be built within it, which ought likewiſe to be at leaſt 18 Inches, thick: And as this Wall cannot be built ſubſtantially, if it be founded only upon the Clay, there is a Neceſſity of making for it a Floor with Joiſts, which is done in this Manner. Take Pieces of Timber-Quarter of three or four Inches thick, or Ship-Plank of two or three Inches thick, and ſix Inches broad, and bury them level with the Clay at every four Foot Diſtance, ſo that they may a little exceed the Surface of the Wall on both Sides: Theſe are called *Racinaux* by the *French*, and do the

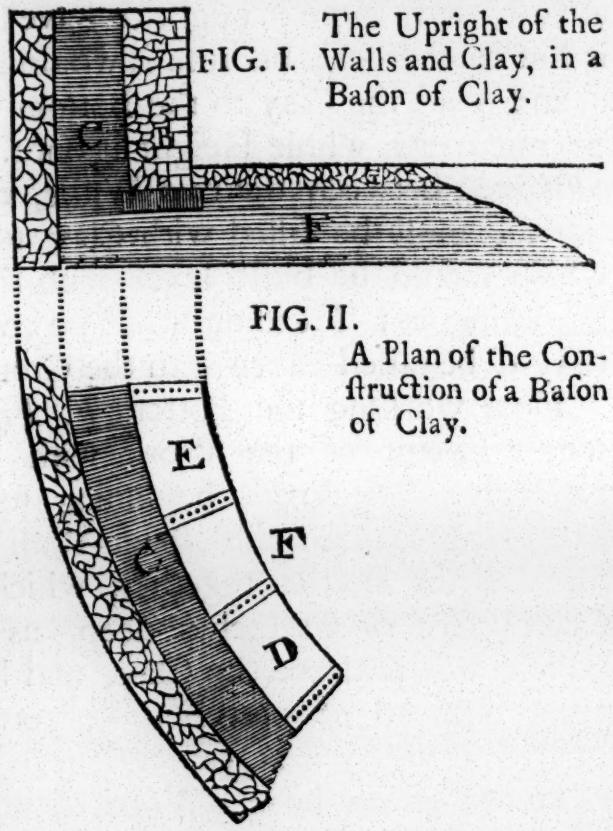


FIG. I. The Upright of the Walls and Clay, in a Baſon of Clay.

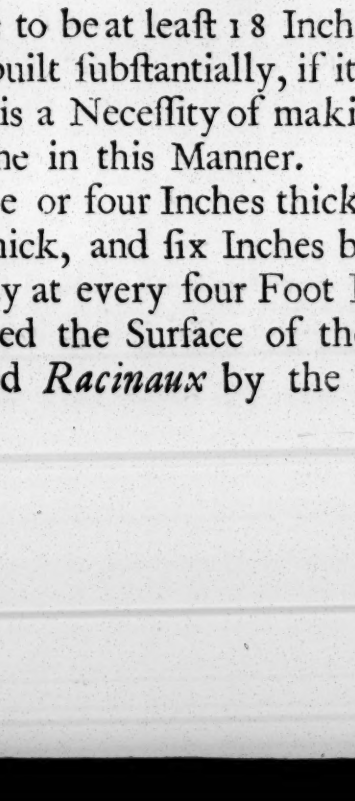


FIG. II. A Plan of the Conſtruction of a Baſon of Clay.

* Douve, *in* French, *ſignifies a Pipe-Stave; and this Wall ſurrounding the Water of a Baſon, as the Staves of a Veſſel do the Liquor contained in it, is therefore called by the* French, Mur de Douve.

the Office of Joiſts, as *D*, *Fig.* 2. after which, lay upon them long Pieces of Ship-Plank, which joining two together, ſhould be as broad as the Wall, and nail or ſpike them down to the Joiſts; and this is what we call the Platform or Floor *E*, *Fig.* 2. This Work being done, you ſet upon it the firſt Courſe of the Inner-Wall *B*, which muſt be raiſed as high as the other and 18 Inches in Thickneſs at leaſt; for in Baſons that are pretty large and deep, where there is a great Weight of Water, and the Sides of the Wall are long, you muſt make the Inner-Wall two Foot thick, as a means to preſerve the Baſon, as well as the Wall itſelf much longer.

YOU ſhould not raiſe the Inner-Wall above half its Height at firſt, as ſuppoſe it ought to have ſix Foot, you ſhould raiſe it but three Foot; becauſe it would be very difficult to throw in and tread the Clay to the Bottom of the Bed, if the Wall be raiſed its whole Height at once. The Space *C*, *Fig.* 1. contained between the two Walls, called by the *French*, *le Corroi*, muſt be filled with Clay to the Top of the Wall, which ſhould be built level with the other; and the ſame Kneading and Treading muſt be continued, till the Body of Clay *C* be raiſed eaven with the Ground.

FOR working the Bottom *F*, *Fig.* 2. you are to fill the whole Extent of the Work with Clay, to make a Bed of 18 Inches Thickneſs, beginning to knead it with that you firſt ſpread within the Inner-Wall and Joiſts; and uniting that and the Bottom together, which ſhould be cover'd with Gravel five or ſix Inches deep, as you ſee in *G*, *Fig.* 1. which will preſerve the Clay, and hinder the Fiſh from digging. Inſtead of graveling it, you may pave the Bottom; but this is vaſtly chargeable.

IF the Baſon be in a Wood, or near any great Trees, the Ground-Wall muſt be built with Mortar made of Lime and Sand, to ſtop the Roots of the Trees, which coveting the Freſhneſs of the Clay to nouriſh them, and gathering more and more Strength, in the end overturn the Walls into the Water. You muſt likewiſe, for the Preſervation of your Baſons, every ſix or ſeven Years, cauſe Trenches to be made as deep as the Clay-Bottom, about the Walls, and in the Middle of the Walks, not going too near the Baſon, or the Hedges,

Hedges, for fear of hurting them; in order to cut off all the Roots that may have reached the Bed of Clay.

To build the Inner-Wall, you ſhould pick out good Rubble-Stones, that will not ſcale and come off in Flakes in the Water, or elſe get Flints and Stones from the Hills, which make very durable Work, but look not ſo neat as the Pointed Rubble. You ſhould lay here and there Stones that reach the whole Thickneſs of the Wall, that is to ſay, ſuch as make the Surface on both Sides, which Workmen call making a *Parpin*: This ſtiffens the Wall, and makes it much the ſtronger. The Mortar that ſhould be uſed in the Conſtruction of this Wall, ought to be made of Sand well tempered and beat up with Lime; the Proportion of which is one Third of Lime, and two Thirds of Sand, which makes very good Mortar.

It may be asked, perhaps, why the Inner-Wall *B* does not go to the Bottom, as the Ground-Wall *A* does. The Reaſon is this: If this Wall were ſet upon the Ground, as the other Wall is, the Water would be loſt, and the Work behind it become uſeleſs, becauſe the Bottom Bed *F* could not be united to that of *C* upon the Sides, and ſo the Clay would not make one entire Body; which is the great Buſineſs of all, and that which keeps in the Water at the Corner of the Wall. 'Tis for this Reaſon you are obliged to build and ſecure this Wall upon Joiſts and Planks bedded upon the Clay, that a Communication may be left between the Bottom and the Sides.

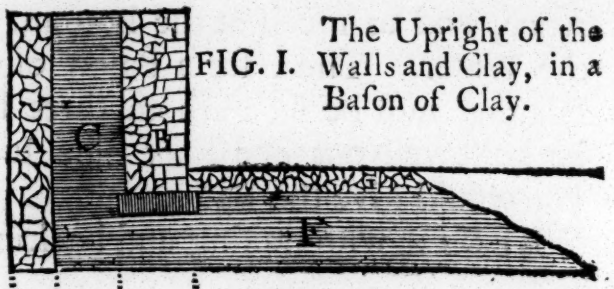


FIG. I. The Upright of the Walls and Clay, in a Baſon of Clay.

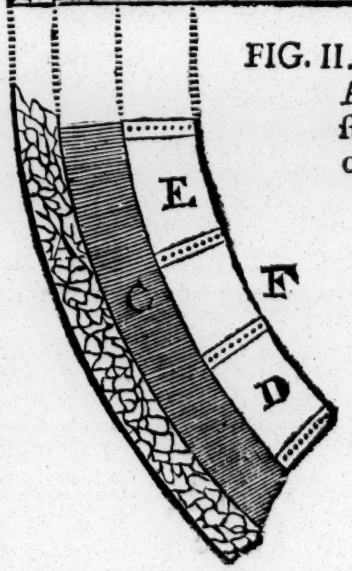


FIG. II. A Plan of the Conſtruction of a Baſon of Clay.

THE true Sign of good Clay is, that it be cloſe and firm, and not ſandy, that it draw out in Strings upon breaking, and that it ſeem fat in handling. 'Tis no matter whether it be red or greeniſh, the Colour ſignifies nothing: It is bought in *France* by the Cubical Fathom, which contains in all 216 ſolid Feet. The Cubical Fathom ought to have a ſquare Fathom upon every Side, which makes 36 Foot on the Superficies. Clay is not dear unleſs in the Carriage and Tranſporting of it: In ſome Countries it coſts nothing but the Drawing, there is ſuch Plenty of it; in others it muſt be fetched from far, and at a great Expence.

BASONS of Cement or Mortar, are built in a Manner very different from the foregoing; the Out-Line of the Baſon is to be extended, and the Diameter enlarged, but not ſo conſiderably as in the Baſons of Clay; there needs no more in theſe, than one Foot nine Inches of Work in the Circumference, and as much at the Bottom, which is ſufficient to hold the Water. Thus, for a Baſon of ſix Fathom Diameter, the Digging muſt be ſix Fathom three Foot and a half, and muſt be hollowed out one Foot nine Inches lower than the Depth you would give the Baſon.

BEGIN with raiſing and backing up againſt the Ground, cut perpendicularly, the Wall of Maſonry *A*, *Fig.* 3. of a Foot Thickneſs, which muſt go to the Bottom, and ſhould be built with Shards and Rubble-Stones laid in a Mortar of Lime and Sand. This Wall being made all round, you begin the Filling in of the Bottom *B* a Foot thick, and work it with the ſame Materials and Mortar, as the Wall *A*. You then back up, againſt this Wall, the ſolid Work or lining of Cement *C*, nine Inches thick, including the Plaiſtering, and inner Surface. This Solid ſhould be made of ſmall Flints taken out of Vineyards, and laid in Beds, with Mortar made of Lime and * Cement,

The Conſtruction of a Baſon of Cement.

FIG. III.



* *Cement in* France *is made with powdered Tile or Brick-duſt. In* England *we make uſe of Terraſs in all our Water-works.*

which

which you muſt by no means be ſparing in, if you would make good Work of it. Theſe Flints ſhould not lie ſo as to touch one another; on the contrary, they ought to be at a little diſtance, and † ſwim in Mortar on all ſides.

† *The Fountain-makers in* France *call it laying Flints in a Pudding of Cement.*

WHEN this Solid is about eight Inches thick, and is continued over the whole Surface of the Bottom *D*, it muſt all be plaiſtered over with the fineſt Mortar, that is to ſay, with Cement well ſifted, before it be tempered with the Lime; and then wrought very ſmooth and even with the Trowel. This Work requires great Care, to take out the Straws and Filth you may meet with in making the Mortar; the Proportion of which is two Thirds of Cement, or powdered Tile, to one Third of Lime. In making this Mortar, a great Quantity of Water ſhould not be thrown upon it at once, for fear of waſhing away the Goodneſs of the Lime; but it ought to be made up by Strength of Arm, and good Beating.

YOU ſhould chuſe a warm, dry Seaſon, for making Baſons of Cement, Rainy Weather being very improper for this Work. When the Baſon is finiſhed, you muſt, for four or five Days together, anoint the Plaiſtering over with Linſeed Oil, or Bullocks-Blood, for fear it crack and flaw; after which, you ſhould let the Water into it as ſoon as poſſible, for fear the Sun crack it.

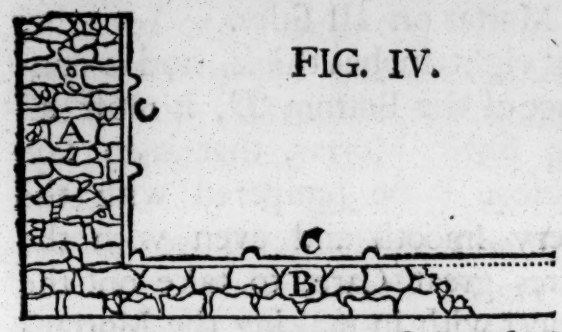
CEMENT has the Property to harden ſo under Water, that Stone and Marble are not harder; and makes ſo ſtrong a Body, that it never decays.

BASONS of Lead are ſomewhat more rarely in uſe, by reaſon of the great Charge of them, and the Danger of having the Lead ſtole. The Out-Line of theſe muſt be enlarged a Foot of a ſide only, and the Opening ſhould be hollowed out half a Foot more than the Depth you would give the Baſon: For Example, a Baſon of ſix Fathom diameter ſhould be dug ſix Fathom and two Foot, and a Foot and a half deep, if you deſign it one Foot deep in Water.

YOU allow a Foot Thickneſs to the Side-Wall *A*, *Fig.* 4. that it may better reſiſt the Earth, tho' you give but half a Foot Thickneſs to the Area, or Bottom. Theſe Walls ſhould be built with Rubble laid in Mortar made all of Plaiſter, becauſe Lime corrodes the Lead, and upon the Walls and Bottom you faſten the Sheets of Lead *CC*, which ſhould be ſeamed one to another with Solder.

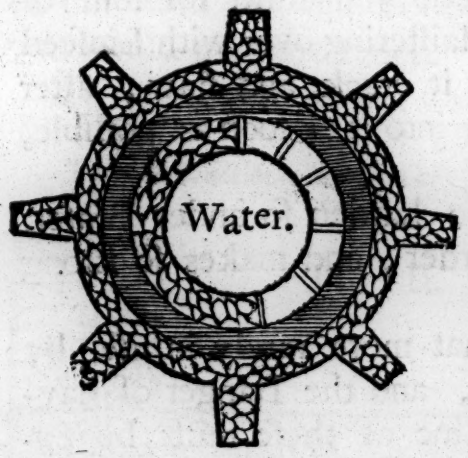
The Conſtruction of a Baſon of Lead.

FIG. IV.



WHEN you make a Baſon upon looſe Earth, or that which is lately brought in, the Ground-Wall ſhould be ſupported, at every ſix Foot, with Buttreſſes, or Spurs of Maſonry; the Foot of which ſhould be as broad at Bottom as the Buttreſs is high, *as you ſee in the 5th Fig.* Without this Precaution, 'tis to be feared, the Baſon will be entirely ruined. If the Bottom be not good, you muſt drive Piles, and make uſe of Planks and Net-works of Timber, to lay the Platform of the Baſon upon.

FIG. V.



YOU ſhould obſerve, in making the Floor of the Baſon, there ſhould be left a ſmall Fall, or Slope, to one ſide, for a Current to carry off the Water from all Parts, to empty the Baſon entirely, and to cleanſe it when you pleaſe, which is done by means of a Waſher, and a Waſte-Pipe at the Bottom of it.

AS to the Upper-Edge, and Superficies of a Baſon, it ſhould be kept very level, that the Water may cover all the Walls equally, and that it may always keep full; which is the great Beauty of a Piece of Water, and of great importance to preſerve the ſeveral Baſons I have been ſpeaking of: For, if in a Baſon of Clay the Water be not high enough, the Body of Clay that compaſſes it will dry and chap, and the

the Water will be loſt; for which Reaſon likewiſe it is, that all round, upon the Walls and Clay-work, you ſhould lay a Border of Graſs of the ſame Breadth, that the Sun may not ſo eaſily attract and draw away the Moiſture. If it be a Baſon of Cement, the Plaiſtering of the Sides will be liable to be ſpoiled by the Froſt, and to peel off; if it be a leaden Baſon, the Sun will be apt to bliſter it, and open the ſoldered Joints; for Lead is hurt more by the Heat than by Froſt, and the Water will then be loſt, which is no eaſy thing to remedy.

For the Waſte-Pipes of Baſons, whether at Bottom, or upon the Superficies, you ſhould obſerve to make them rather large than ſmall, being very ſubject to be choaked, notwithſtanding the Cawls that are put before them. This Waſte-Water is carried away in Drains, or Earthen-Pipes, when 'tis only to be loſt in Sinks and Common-Shores; but when it ſerves to play the Baſons that lie below, you muſt then make uſe of the ordinary Leaden-Pipes.

These large Diſcharges, beſides that they ſerve to keep the Walk about a Baſon dry and in good Order, are alſo very neceſſary to the Preſervation of a Baſon: For when the Water runs over at any time, it dilutes the firm Ground upon which the Area and Foundations of the Baſon are ſet, and ſpoils the Level of it.

Of the three ways of making Baſons, which I have been ſpeaking of, that which coſts leaſt is doubtleſs the Clay, to which you muſt have recourſe in great Water-works, for ſaving Expence. But it is that too, which requires moſt looking after of all, being very ſubject to dry and chap, which will oblige you to run it over again from time to time: That which coſts moſt, is the Baſon of Lead, becauſe of its Weight and Solder; and the third, which is that of Cement or Terraſs, is preferable to all for its Duration, and may be ſaid to keep a Medium, as to the Charge, between a Baſon of Clay and one of Lead: There is nothing but the Plaiſtering of them can ever be ſpoiled; this is ſo true, that I have had Baſons of Cement fitted up again, which had lain 10 or 12 Years without Water, and made very good by pecking all off to the quick, and plaiſtering them over anew.

You

YOU may farther obſerve, not to employ Clay unleſs in moiſt Places; it keeps much better there than in dry Countries. Cement is moſt proper in dry and barren Ground, and where Clay is ſcarce, becauſe it naturally loves Drought and Heat. As for Lead, you may employ it any where, but with as much good Husbandry as poſſible: It is more made uſe of for Pipes than for Baſons, unleſs it be in ſmall Baſons upon Terraſſes, in Caſcades, and other Places where you would not dig deep, for fear of killing your fine Trees.

THERE are ſome Countries where there needs neither Clay nor Cement to make Baſons, the Earth holding the Water naturally. This is a kind of free Earth, which needs no more than to be tempered, and filled into a Trench of three Foot broad, after having lined it, upon the ſide next the Water, with a Wall of Maſonry of two Foot thick, which does the Office of the Inner-Wall in the Baſons before mentioned.

Vitruvius *ſpeaks of this Earth*, lib. 2. cap. 6. *This is what we call Terraſs.*

IN *Languedoc* and *Provence*, they make uſe of a kind of Earth called *Pozzolana*, which has the Property of growing hard under Water, and is extremely durable; 'tis with this Earth they make their Baſons: They mix it with Lime, and uſe it as Cement, with which it may properly be compared, making, in a manner, the ſame Mortar.

IN Places where there is much Water, and a great Fall of Ground, you may, beſides Baſons, and large Pieces of Water, contrive alſo Caſcades, * Gullets, and † Buffets of Water, *&c.* as well in the Walks, as on the Stairs and Flights of Steps: Nothing is more agreeable and convenient; for the Baſons above ſupply them below, and are made to play one from the other by the waſte Water, either from the Water or Superficies.

* Goulettes *are ſmall Channels cut in Stone, or Marble, laid ſloping for the Water to run in, which is now and then interrupted by little Baſons, cut in form of Shells, which throw up ſmall Spouts of Water.*

† Buffet d'Eau *is commonly a Marble Table in a Garden; over which are ſeveral Shelves raiſed pyramidally, ſet out with Veſſels of gilt Braſs, about which the Water falls, and makes them look like Cryſtal garniſhed with Vermilion.*

CAS-

CASCADES are compoſed of Sheets, Buffets, Masks, Bubbles, * Muſhrooms, Sheafs, Spouts, Surges, † Candleſticks, ** Grills, ‡ Tapers, Croſſes, and vaulted Arches of Water.

* *Muſhrooms are a ſort of inverted Bowl-diſhes, cut with Scales on the upper Part, over which the Water falls into the Baſon below.*

† *Candleſticks of Water are generally where the Spout is raiſed upon a Foot, as that of a great Balluſter, carrying a little Baſon upon the Head of it, out of which the Water falls into another larger Baſon. Sometimes they are no more than ſeveral ſmall Spouts, riſing in little ſquare or round Baſons, as in* Fig. II. Plate L.

** *Grills of Water are ſeveral Spouts in the ſame Line, ſtanding in a long Baſon very near one another.*

‡ *Tapers are the ſame as Grills, but more diſtant one from the other.*

THEY are accompanied with Maritime Ornaments, and ſuch as are ſuitable to the Water, as artificial Ice, and Rock-Works, Congelations, Petrifyings, and Shell-Works, Water-Leaves, Bulruſhes and Reeds imitating the natural, with which the Surface of the Walls and Borders of the Baſons are lined. They are likewiſe adorned with Figures that naturally belong to the Water, as Rivers, Naiades or Water-Nymphs, Tritons, Serpents, Sea-horſes, Dragons, Dolphins, Griffins, and Frogs, which are made to throw out, and vomit Streams and Torrents of Water. This is the greateſt Part of what enters into their Compoſition.

AS to their Situation, and their Difference; Caſcades can ſcarce have other than that of a gentle ſloping Deſcent, or a Fall by Steps and Stairs of Stone, or Banks and Slopes of Turf. Theſe great Caſcades are diſtinguiſhed from the little ones, which are made either in Niches of Horn-beam, or of Lattice-work, or in the Middle of an Aſcent of Steps, or, laſtly, at the Head of a Piece of Water; as may be ſeen in the Examples of the following Plate, which I am now going to explain.

THE firſt Figure repreſents a Caſcade as plain as can be, and one of the moſt eaſy to execute in a private Gentleman's Seat. It is ſuppoſed to be upon a gentle Slope, at the End of a Wood cut into a Gooſe-Foot, the Walks of which center upon a round Baſon, where there is one large Spout; and to furniſh the more Water to the Head of this Caſcade, you have waſte Waters from Baſons above, that throw them-

themſelves with open Mouth into this very Baſon. The Head of this Caſcade is between two Deſcents of Stone-Steps, adorn'd with four Figures, and it is formed by three Mask-Heads that diſcharge the Water into Shells, from whence it falls by Sheets into the Baſon, being accompanied by two large Spouts on the Sides. In the Breadth of this Baſon, and of that below, is made a Bed of Turf, edged with two Walks, in which are laid Chevrons, or Checks of Graſs in *Zig-Zac*, to throw off the Torrents on both Sides. Theſe Walks are planted with Horſe-Cheſnuts, and Yews between them; and behind the little Counter-walk, the Wood is continued to incloſe the Caſcade, and make a Ground of Verdure to it. The Water runs from this Head and upper Baſon through a * Gutter, and comes into a ſecond Baſon, where it makes a Sheet: There are two little Baſons above with † low Spouts, which throw Sheets alſo into this Baſon. The Water, after this, runs through another Gutter, at the End of which is a ſmall Baſon with a little Spout, which advances forward, and makes a Sheet into another Baſon below it. The reſt of this Caſcade is a Repetition of the ſame Thing down to the great Baſon at the lower End, which receives all this Water, and is adorned with two large Spouts, beſides the three little ones above, which fall Sheet upon Sheet into this Baſon. In the Paliſade Hedge there are two Figures ſet to accompany this Fall of Water.

* Rigole.

† Boüillons.

FIG. II. THE ſecond Figure is much more magnificent and compoſed; it is laid out upon an eaſy Deſcent, cut with Steps, Half-Paces, Reſts, and ſmall Slopes of Turf. Its Head is a great Octangular Baſon, out of which riſes a large * Muſhroom of Water, making a Sheet into the Baſon; and the Cup or Bowl of it is ſuſtained by Dolphins that ſpout Water out. There are likewiſe four Bubbling-Spouts regularly placed in this Baſon, the Water of which is all diſcharged by a Sheet upheld by Tritons, and Dolphins, that adorn the Head of this Caſcade. This Water afterwards finds certain Reſts, or Half-Paces in Baſons, and continues its Fall by ſeveral other Sheets down to the great one at bottom, which is of the ſame breadth as the upper Baſon, and receives all the Water: In it are three large Jets, two of which anſwer the Row of Spouts or Candleſticks upon the Sides,

* Champignon, *which ſee explained above.*

A Cascade upon an easy Descent. A Cascade in Buffet at ye head of

fig: 1st

fig: 3d

1 2 3 6 9 12 Fathom

M. I. de Gucht Sculp.

fig: 4th A Cascade upon a Terrais . A Cascade

Upright.

Plan.

1 Fathom

1 2 3 5 9 10 Fathom

. Cascade with a Niche of Iron-beam .

Pl. L .

Sides, and the other is in the Middle. As theſe Sheets and Baſons would look too flat and naked without Spouts, the Sides of this Caſcade are accompanied by two Rows of ſmall Baſons, called * *Candleſticks*, which are made upon each Half-Pace. Theſe Spouts do not quite fill the Baſons, but in the Middle is a Cawl, and a Waſte-Pipe, to ſupply the others; that is to ſay, the firſt ſupplies the third, the ſecond the fourth, and ſo of the others; for in furniſhing the two firſt Spouts of each Row, you may make a hundred of them play all at once. There are little Banks of Graſs between theſe Baſons, which lie juſt againſt the Steps; and thoſe which are marked with a little black Square upon the Stone Coping, are Plinths to ſet Vaſes and Flower-Pots on, of which there are three Rows on each Side: Next the Hedge is a Slope of Turf continued from Top to Bottom, which is cut where it comes againſt the Steps. This Caſcade is ſituated as the other, in the midſt of a Wood, for 'tis there they are moſt commonly made: The Verdure of the Trees and Graſs, the Brightneſs of the Water, and the Ornament of the Figures and Vaſes, making a Medley and Contrariety extremely agreeable to the Eye.

* Chandeliers, *which ſee explained above.*

THE third Figure contains a great Buffet, proper to be ſet at the Head of a Piece of Water, the upper Side of which lies againſt a low Terraſs-Wall. You may judge by the Upright, of the handſome Effect this Caſcade would make; and, by the Plan, of the Room it takes up. In the level Baſon above, which is the firſt Bed, there are five great Spouts of about 12 Foot high. This Baſon advances in Form of an oblong Square hollowed out at the Corners, and the Water of theſe Spouts makes Sheets on the Fore-Part, which are interrupted by little Rocks ſet againſt the Intervals of the Spouts. The hollow Corners are likewiſe ſet with Rocks, and upon the Sides are two Sheets of Water. Theſe Rocks are put here only to make a Contrariety, and to ſerve for a Ground to ten low Spouts that are in the ſecond Baſon, or Bed of Water, which differs ſufficiently from the former. The Sheet in Front is continued from End to End, and throws itſelf into the Water-work. There are alſo two pretty large Sheets upon the Sides, and no Rocks but at the Corners. This Buffet is adorned above

FIG. III.

with two Groups of Boys holding up Baskets of Flowers, which ſtand upon Baſes ſet upon the Coping of the Terraſs: At Bottom are two Figures of Water-Nymphs carried by Dolphins, which ſpout Water out at their Noſtrils.

FIG. IV. IN the fourth Figure you have the Elevation of a ſmall Buffet, or Caſcade of Water, contrived in the Middle of a Deſcent of Steps, Horſe-ſhoe-Faſhion. Upon the Flat of the Terraſs is a Baſon rounded at the End, with a large Spout or Sheaf of Water, which faces another Flight of Steps above, and a great Walk in a Wood, the Length of which is filled with a Canal that ſupplies the Caſcade with Water. This great Spout falls again into the Baſon below, by a Sheet ſuſtained by two young Tritons, and three Dolphins, that ſlabber into the ſame Baſon. This Caſcade is accompanied by two Spouts upon the Sides: The Walls of the Terraſs, and of the Horſe-ſhoe, are adorned with Pannels, Courſes of Rock-work, Icicles, and Petrifications cut in Stone.

FIG. V. THE fifth Figure is fit to be ſet at the Bottom of a Walk, or at the End of ſome long Line, and is made in a Niche or Sinking of a Hedge: 'Tis a great Shell raiſed at the End of a Baſon, and ſuſtained by Scrolls and Water-Leaves; in the Middle is a Figure of *Venus*, upon a Baſe wrought with a large Hollow, borne by two Dolphins, which throw out Water. There are two Bubbling-Spouts upon the Sides of the Shell, from which the Water falls again by Sheets into the Baſon below.

THE Baſons of theſe Caſcades may be made with Clay, or Cement, with a Coping of wrought Stone going round them; and for the little Baſons of the Candleſticks, they may be cut and hollowed out of one Stone: The Gutters and narrow Channels may be alſo ſunk in Stone, or built with Flints, and Mortar of Cement. You may likewiſe make all theſe Baſons and Gutters with Lead, but that coſts a great deal, and is very liable to be ſtolen.

AS to the Sheets of Water, they ſhould be ſupported by well-built Walls; and that they may make a good Effect, and not be torn in Pieces, they ſhould be made to run upon Sheets of Lead, or upon Beds of Stone wrought very ſmooth, and ſet very level. The Figures wherewith you adorn

adorn your Cascades, may be of Marble, Brass, or Lead gilt, bronzed, or painted of the Colour of Brass, or else of very hard Stone; but for Works that stand in the Water, you cannot employ Materials that are too good.

The End of the Fourth and Last Part.

BRITISH
7 AU 78
MUSEUM

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